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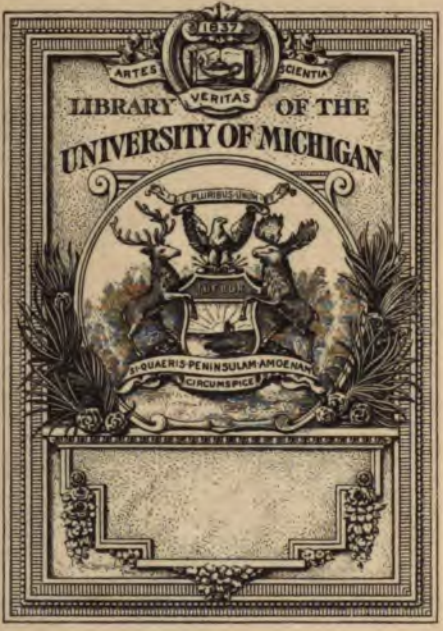
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THE

NORTH AMERICAN

Medical and Surgical Journal.

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Medical and Surgical Journal.

VOL. VIII.

Printed by James Kay, Jun. & Co.
Printers to the Philadelphia Medical Society,
Library Street, Philadelphia.

THE

NORTH AMERICAN

MEDICAL AND SURGICAL

JOURNAL.

PUBLISHED BY THE

Kappa Lambda Association

OF THE

UNITED STATES.

NON DOCTIOR, SED MELIORE IMBUTUS DOCTRINA.

VOL. VIII.

Philadelphia:
J. DOBSON, AGENT, No. 108, CHESTNUT STREET.
James Kay, Jun. & Co. Printers.
1829.

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THE

NORTH AMERICAN

Medical and Surgical Journal.

JULY 1829.

Original Communications.

Article I.—*Some Observations on the Subject of the Mode of Connection between the Mother and Fœtus in Utero.*

By John Redman Coxe, M.D., *Professor of Materia Medica and Pharmacy in the University of Pennsylvania.*

In the 12th number of the North American Medical and Surgical Journal, I published the statement of a case, from M. Mery, which I thought had a strong and decisive bearing on the determination of a question, long and pertinaciously disputed, whether a *direct* communication exists between the vessels of the mother and fœtus during the period of utero-gestation.

The subject is of interest as a point of physiological inquiry; but possesses nothing of practical importance (whether the one or the other side of the question is sustained) to the accoucheur or general practitioner. It is obviously therefore a question of mere curiosity, on which we may be permitted to differ, without its involving in any degree the character and qualifications of the physician; and of consequence, I conceive it to be of that nature, that *either* opinion may be safely taught in a course of lectures without the remotest hazard of the student being injured by adopting that opinion which he deems most forcibly sustained.

I should not have considered it a subject of further pursuit, had it not lately been rendered of much more importance than it deserves, by becoming the foundation of a trial in our courts of justice; in which, as I understand, testimony of the most opposite description has tended fully to substantiate it as of little actual import, and yet one on which the reputation of a medical teacher was presumed to be dependent.

Without entering into the merits of this case, I have, since that trial, deemed it of sufficient importance to endeavour, on my own account, (as maintaining the same opinion that was regarded as objectionable in the party concerned), to substantiate the position I had previously sustained in the publication alluded to;—viz. that there is a *direct* communication between the parent and child; and proved, as I think, conclusively, by the *direct* and successful experiments of several most ingenuous and most reputable anatomists; whilst the opposite opinion is sustained by *negative* experiments alone, in the hands of others.

As this is a question not to be decided by mere opinion, but by anatomical research, precisely and carefully reported; I shall pass by all the *speculations* of writers, from HIPPOCRATES to the present day, as altogether inadequate to its decision; although a very considerable number might be adduced, as favourable to the position I venture to maintain. Anterior to the discovery of the real character of the circulation of the blood by HARVEY, no one will, I presume, consider that the slightest stress can be laid on the sentiments upheld, on either side, unsupported as they are by the test of experiment. Nay, even since the time of HARVEY, probably not more than about a dozen physicians have practically and experimentally pursued the inquiry. The far greater number of those who have adverted to it, either copy in toto the opinions of others; or pretend to establish the one or the other side of the question by reasoning, derived rather from what they conceive *ought to be* the fact, than from any perfect and fairly performed experiment of their own. All these may, I think, for the most part, therefore, be set aside, whether they be advocates of the one or the other opinion. Including myself in the number, I propose briefly to attend to the few who have practically endeavoured to settle the question at issue between them.

The various opinions of the mode by which the fœtus is nourished are, I apprehend, fully developed in the following quotation from LAFAYE's "Principes de Chirurgie."—Paris, 1749, 12mo, p. 75. At least it is sufficient for our present purpose.

"Pendant tout le tems que le fœtus reste dans la matrice, il reçoit la nourriture par le placenta, et en partie par la bouche.

"Quelques-uns comparent la membrane qui recouvre la convexité du placenta à la membrane interne des intestins.

"Elle est, à ce qu'ils disent, parsemée d'une infinité de petits orifices des vaisseaux ombilicaux, qui pompent, comme font les veines lactées, le suc nourricier ou laiteux, que les vaisseaux de la matrice déposent dans des petites cellules. C'est-la toute la communication qu'ils admettent entre la mere et l'enfant. Car ils ajoutent que le sang porté à l'enfant par la veine ombilicale est rapporté au placenta par les artéres ombilicales, avec la matiére laiteuse. Ainsi le placenta fait les fonctions du poûmon.

"D'autres démontrent que le sang circule de la mere à l'enfant, et de l'enfant á la mere, et que c'est par ce moyen que le fœtus reçoit sa nourriture. Les accidens qui arrivent quelquefois à la mere, pendant sa grossesse, comme les pertes de sang, prouvent cette opinion.

"Les artéres de la mere déposent dans les petites cellules du placenta, le sang qui s'est perfectionné, et qui est devenu plus fin dans la matrice. Les ramifications de la veine ombilicale qui répondent à ces cellules, prennent ce sang, et le portent au fœtus. Le superflu du sang repasse de l'enfant à la mere, par les artéres ombilicales, dont les ramifications le déposent dans les pores de la matrice, ou les veines utérines le reprennent pour le mêler avec le sang de la mere."

Now, it may be essential to remark that mere anatomical investigation unaided by injection, cannot be adequate to decide this question; it is equally clear that even injections cannot decide it, if made from the maternal or fœtal vessels in a *separate* state. To effect it fairly, the injection must absolutely be accomplished whilst the placenta is in *perfect* and *complete* connection with the uterus; a circumstance rarely falling within the range of inquiry; and therefore reducing in a corresponding ratio our chance of investigation. So rarely indeed is this state of things to be met with, that there are scarcely a dozen instances on record (of the human subject) in which the experiment has been pursued.

Even here, too, we perceive, in the minuteness of the vessels, a source of failure. If, with difficulty, a limb injected from an arterial trunk shall have its corresponding veins (of whose inosculation no doubt exists) filled with the injected matter, but rupture and effusion ensue; can it readily be imagined that less difficulty exists of similar rupture and effusion between the delicate conjunctions of the maternal and fœtal vessels? and thus, that a very trifling force exerted, or an undue amount of injection thrown in, beyond what is absolutely necessary, should separate the placenta from its maternal attachment. Whoever duly considers this, will easily acknowledge that very great difficulty does indeed environ the happy execution of any attempt in this particular inquiry. Nor will they be surprised that it more frequently fails of producing a successful than an unsuccessful issue.

With these remarks in view, we are now prepared to pursue the investigation.

The immortal HARVEY, for such he truly deserves to be called, known as he is to every tyro in medicine as the discoverer of the circulation, and familiar on the lips of every medical man; is, I may nevertheless venture to affirm, unknown to far the larger portion, except by tradition. How few have actually looked into his writings on this important point of physiology, the foundation indeed of all our medical opinions, I leave to the judgment of the reader. In this country a reprint of his works has never appeared—nor in Europe, for a vast interval of time. I do conceive that his interesting inquiries are amply deserving of a fuller acquaintance; and I think the medical republic is indebted to the gentleman who (too concisely) has afforded an outline of his merit, by his exposition of a few remarks and extracts from his writings, in the 12th number of your Journal. That the whole of his essay on the circulation is deserving of publication is my decided opinion; for, as that gentleman says, "After all, we owe to HARVEY whatever we possess of true anatomy, physiology, or therapeutics; for neither one nor the other of these departments could have ever existed in their present perfected state, but for the happy direction and philosophic employment of his admirable genius and industry*." P. 373.

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* In thus expressing an opinion favourable to the reprint of an author so truly deserving at the hands of every medical man, I fear I shall have but few supporters; and fewer still, if I were to urge (if only as a matter of curiosity) a

This illustrious man was, however, unfriendly to the opinion of a direct communication between the mother and child—maintaining the reverse in several parts of his excellent treatise "De Generatione." I can only remark, that, not founded on any direct experiment, it is a mere hypothesis with him; and, however greatly I revere his merits, or appreciate his actual researches, I do not feel myself bound to pay any deference to mere opinion, even when emanating from one who is so truly deserving of the utmost respect and esteem.

I shall now proceed to arrange the experiments which I find on the subject, and leave it to every one to determine for himself, how far he would estimate a negative experiment in the hands of others as fully adequate to overturn those of a positive character in his own hands, even although that negative might emanate, as it does, from the celebrated MONRO!

It is curious that all this disputation turns on the mere fact of *immediate* vascular communication; for (except by those who may *still admit* nutrition of the fœtus to be by the mouth, or absorption

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reimpression of many others of our old medical authorities, whose works are quoted, if not known, as a ready passport to present celebrity; but whose works, if actually spread amongst us, would probably show how largely the opinions of the present day are absolutely derived from their obsolete pages! It is, therefore, unlikely that any attempt of the nature alluded to would prove successful; especially when I add, that, but a few months ago, a very enlightened and estimable physician expressed to me his wish that every book of more than five years standing was burned!! I thought I was in a dream; or, at any rate, that I was in the dark ages of the decline of learning! Heavens! what a conflagration did this Gothic wish bring forward to my view! The mere idea is, *now*, more sacrilegious than the *actual* conflagration of the Alexandrine library! It is indeed most true that even by such a funeral pile, we might in some measure be the gainers; for hundreds of volumes would thereby become extinct which have an undeserved location in our libraries! But what productions within the last five years can be put in competition with the works of BOERHAAVE, HALLER, and a host of worthies, who gave the impulse that now illumes the medical world! Even *their* destruction could not now arrest the rapid march of intellect which *they* awakened—or prevent our reaching anew the pinnacle on which, by *their* assistance, we now stand, although it might destroy the sources, and thereby prevent the discovery of what we owe to them. I have no doubt that many would willingly consign their *reputed* labours to such a conflagration; for they who see no chance of their lucubrations surviving them can have no pleasure in the present, or prospective view! especially if they compare their borrowed merits with those so fairly and justly awarded to the great men I have mentioned! Oblivion alone is all they can anticipate!

of the amniotic fluid, if any such there be) all admit the nourishment to pass by the umbilical vein! Here, however, some suppose it to be blood by *direct* intercommunion of fœtal and maternal vessels; whilst others contend that it is blood, or chylous matter, discharged into certain affirmed cryptæ, or other contrivance, from the uterine arteries; from whence it, or a part, is taken up by absorption by the placental veins. It would appear, then, of little actual consequence how this dispute should terminate; since a communication is admitted, although the *quo modo* is not positively agreed on. And as the affirmed facts may be viewed, so the one or the other opinion will of course be maintained. We may, however, again remark, that *either* opinion may be safely held, without the slightest imputation on the character or standing of any physiologist, or implicating in any degree the practical skill or integrity of the medical accoucheur. Truth is nevertheless desirable, even in points of no practical importance: in so far, then, it is equally desirable that the few facts connected with the question at issue should be fairly stated, in order to prevent an ex parte opinion.

At what period the ovum, descending into the uterus, becomes attached by the placenta thereto, may be difficult exactly to assign; and probably it varies in different animals, and in the same animal at different times.

HARVEY, whose experiments are very numerous, says, (De Generatione, p. 236, Amsterdam edition of 1662, 12mo.) "Toto hoc temporis spatio (trimestri scilicet) vix quicquam placentæ, conspicitur."—"Nullum enim indicium reperiri licuit, quo conceptum illum, sive ovum, utero adhuc connexum fuisse, crederem."—*Id.* "Porro, conceptus isti mihi videbantur, quasi ova quædam, quæ intra uterum solum foverentur, propriaque indole augerentur."—*Id.* At page 296 he also says, "Nosque etiam mulieribus sæpe secundo mense decidisse vidimus, ad ovi columbini molem, sine fœtu; aliquando etiam ad phasiani vel gallinacei ovi magnitudinem: atque hoc tempore, *embryo intus longitudine unguis digiti minimi fluitans cernitur*. Membrana vero conceptum obtigens, *placentam annexam nondum obtinet*, *neque utero affigitur*;" and again, at page 376, he says, "Quare haud verum est, spiritus à matre per arterias ad fœtum pertingere: nec magis verum, vasa fœtus umbilicalia cum uteri vasis per anastomosin conjungi. Fœtus enim vita propria fruitur, habetque arterias pulsantes, et sanguine ac spiritibus plenas, diu antequam conceptus (in quo efformatur et natat) utero alligatur: non aliter omnino, quam pullo in ovo contingit."

It is very certain that HARVEY's experiments and observations go far to prove that the fœtal conception does actually possess a vita propria, and fabricates its own blood before it is actually connected to the uterus by a placenta; and this seems reasonable when we consider that it has been removed from a part far distant, and has passed down the fallopian tube to find a domicile in the uterine cavity*. Now whilst all this is progressing, it is obvious that no connection can exist. It is as yet an absolutely independent being—an organized point of nearly fluid materials. The first symptom of vitality which it affords is the appearance of the punctum saliens, the red blood, formed by some mysterious process within its almost imperceptible and colourless domain, evincing the absolute importance of that fluid to its nutrition, and which is probably the result of a process within itself, from a portion of nutriment derived from the amniotic fluid, by absorption of the tender vasculi, not yet associated by means of a placenta with the uterine walls. But, although at this early period such intercommunication of fœtal and maternal vessels cannot exist, (although nutrition must still be obviously progressing), it certainly does not follow, that such should not be the result at a later period when an absolute connection has taken place. How, indeed, can this adhesion be presumed to form but by the agency of vascular intercommunion? There is at no period any other vital connection but that of vessels; and although it may be difficult to conceive of such direct inosculation, it certainly is not more so, than if we imagine some curious connecting link to ensue by simple apposition, without any direct union of vessels, and that the orifices of the maternal and fœtal vessels should so happily open, pari passu, within the cryptæ thus assigned to them. How are these cryptæ exactly and accurately formed for this purpose precisely at the right moment, with less difficulty than is involved in the idea of a direct inosculation of the mouths of the vessels? These things duly considered, we cannot perceive (mysterious as is this early process of the most mysterious process of the animal economy) that HARVEY's opinion can avail to overthrow the facts I have yet to mention. Nor do we find, as I before remarked, a single experiment made by him of an injection of the vessels of either part. It is to be regarded, therefore, simply as the opinion of this great man, and to be estimated only at what it is worth.

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* See JOHN HUNTER on this subject in his Observations on the Animal Economy.

To proceed now; we remark, that several persons in the early part of the last century, no longer content with simple assertion on either side, brought the question to an issue, by employing the aid of injection. COWPER, NORTWYK, VIEUSSENS, and still later HALLER, LE CAT (in three instances), and within a few months past, BIANCINI, all affirm that this communication is proved by aid of injections under their own particular pursuit, directed to the determination of a question so long dividing the medical world.

The only persons who *experimentally* endeavour to destroy the force and weight of the experiments made by the above gentlemen, are Drs ALEXANDER, Sen. and Jun. and Dr DONALD MONRO; and to them I now direct my attention. JOHN HUNTER has given us his particular views, but takes notice of not a single person on either side of this contested question.

In the Medical Essays and Observations of Edinburgh, Vol. II. page 102, 3d edit., 1747, (the 1st edit. published in 1732 or 3), Dr A. MONRO has given us an extensive, interesting, and very instructive paper on the subject of the "Nutrition of Fœtuses,"—one which no one can read without pleasure, from the general learning and apparent candor and urbanity which pervades it throughout.

He thinks the determination of the question "concerns the fœtus *after it is formed;* whose nourishment is now allowed by all either to pass from the amnios by the mouth into its chylopoietic organs; or to be conveyed into its bloodvessels by means of the umbilical vessels; or to be furnished by both." He maintains the second of these opinions; and has, consequently, endeavoured to render the other two improbable; which he attempts with great success by the solution of the three following problems*.

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* In Dr MONRO's very interesting memoir, under the solution of the above three problems, he has absolutely forestalled every thing that *has since* appeared on the subject. A reference to his paper will show that nearly every thing since said is little else than a mere *transcript*, or at best, a transposition of his arguments and facts, often so clumsily done as readily to demonstrate the plagiarism, however *occasionally* he may *be quoted*. It might be supposed that the authorities thus quoted had been investigated in the original authors; and yet I will venture to affirm, by a comparison of MONRO's essay with most of those since his time on the subject, that his essay *alone* is the only work that has been consulted; and that many of his best arguments have been left out of view.

1. How far the mouth or umbilical vessels are necessary to the nourishment of fœtuses?

2. Whether the liquor of the amnios is proper food for a fœtus?

3. Whether this liquor passes into the stomach of a fœtus?

Considering these only in so far as they relate to viviparous animals, he says,

"In treating this subject I must beg leave to throw away that humble regard to authority which bore sovereign sway in the schools of physic so long, and to pass all the hypothetical reasonings to be met with in books unmentioned. It is only well vouched facts, and reasonable consequences from them, that I will take any notice of; for on these, and these only it is, that a rational foundation of any part of medicine can be laid."

In this position I fully acquiesce; for it would indeed be absurd to depend for the solution of a question like this on merely speculative opinions, on either side, unsupported by the aid of anatomical research, in which the greater part of writers were deficient, at least previously to the fifteenth or sixteenth century.

He then enters into the enumeration of various facts under thirty-two different heads, which he considers *as unquestionable;* but which I do not intend to repeat, or even to refer to, with the exception of two or three which more immediately interest us in the present inquiry; although all are in a greater or less degree connected with it, and some of them may not be deemed exactly conformable to present opinion.

His own sentiments may be considered as embraced pretty fully by the following:

"8. The placenta is covered on the side next to the womb with a fine membranous continuation of the chorion." Page 108.

"9. The extremities of the umbilical vessels pierce this membrane, and show their very small orifices on its side next to the uterus; and therefore it is compared to the villous coat of the intestines." Page 108.

"13. The mother supplies liquors to the fœtus, which returns others to the mother by means of the uterine and umbilical vessels.

"This seems (says he) to be plainly proved by observations. Fœtuses whose placentæ were not in the least separated from the uterus have been quite exhausted of blood by the mother's dying of an hæmorrhagy; and I have seen children pale and weak by violent flooding in the time of labour." Page 109.

The doctor does not then deny a communication between the parent and child; but that it is not continuous by inosculation of vessels, but merely contiguous through the intermedia of certain cavities. Thus:

"16. The liquors are not carried from the mother to the fœtus, or from the fœtus to the mother, by continued canals; that is, the uterine arteries and veins do not anastomose with the veins and arteries of the secundines; but the extremities of the umbilical vein *take up the liquors by absorption* in the same way as the lacteal vessels do in the guts; and the umbilical arteries pour their liquors into the large cavities of the sinuses, or other cavities analogous to them." Page 112.

His arguments to prove this assumed fact are, to me at least, inconclusive; although specious at first sight, and spread over upwards of twenty pages; for the most part indeed combating the affirmations of COWPER, NORTWYK, and others, who assert *that they did actually inject the vessels from either side.* He denies the former having ever performed the experiment on the human subject; yet he states from DRAKE, that "Mr COWPER kept by him a cotyledon and part of the uterus of a cow, in which mercury, poured into a branch of the uterine artery, went into one of the cotyledons of the uterus, and filled those branches of the umbilical veins which went from that cotyledon to the navel of the fœtus," which indeed he attempts to rebut at page 127, by experiments of a like nature, in *which he was unsuccessful**.

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* DRAKE, to whom MONRO thus adverts, wrote a very excellent treatise on anatomy, which reached three or four editions by 1727. At page 231 (2d edit.) he enters into the consideration of the objections against nutrition by the umbilical vein, and is, I think, very happy in his reply to them. As it regards the quotation above made, by MONRO, unless the later editions are strictly followed, I must observe that it is not precisely as in mine, (the 2d), from which I therefore transcribe the passage, page 234—"Thus the reasonableness of this old opinion may be vindicated, but the certainty of it rests upon stronger proof. Mr COWPER, to whose happy industry we owe the confirmation of many ancient discoveries, and the benefit of some new ones, has the honour to re-establish this old, but long exploded truth. For by pouring mercury into a branch of the uterine artery of a cow, that went into one of the cotyledones of the uterus, he filled those branches of the umbilical veins, which went from that cotyledon to the navel of the fœtus; which with a part of the uterus he keeps prepared by him." The meaning is the same in both, and I should not have thought it proper to mention it, had not Dr MONRO's quotation been in inverted commas, as if absolutely abstracted verbatim from DRAKE.

How far a positive assertion of a fact is thus to be overthrown by negative experiments in the hands of others, will be of course differently viewed by the advocates and opponents of the position.

At page 118 Dr MONRO takes up the consideration of the assertion of Dr NORTWYK, who experimentally affirms his having actually injected from the uterine arteries, the vessels of the chorion and placenta, and which he affirmed he *was "ready to demonstrate at any time in the preparation which he preserves."*

Acknowledging the candour and learning of Dr NORTWYK, MONRO states that such a positive assertion "had made several considerable men to decide against me, (Dr M.) and to affirm upon his authority, that there is an anastomosis." He endeavours, however, to show that Dr N. was deceived, and for this end he sets down Dr N.'s description of the parts, and compares them with what he had himself observed*.

At first sight I supposed that Dr M. had carefully appended every point connected with the subject in due and ample detail; but, on comparing it with the original, it constitutes but a very minute part of his remarks, and many of them from far distant places—omitting a vast deal of that intermediate portion which forms the connecting link of Dr N.'s chain of facts and reasoning. Dr M. appears to have dissected three women who died in pregnancy at three, six, and eight months, "before either the membranous part of the secundines was torn, to let out the water, or that the placenta was the least separated from the womb." Page 122. Whether he injected any of these is not very apparent; but he mentions doing so in one instance, where the parent was three or four months gone with child. He continued the injection, he tells us, "till all the vessels of the womb, both arteries and veins, were in hazard of bursting;" his injection did not enter any branch of the umbilical arteries, or fœtus. He adverts to Dr NORTWYK's objections to his experiment, and endeavours to set them aside; how substantially, will of course be differently viewed by the advocates on either side of the question.

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* All this is very well, and I have no desire to call in question the slightest observation communicated by Dr M. On the contrary, all his writings prove him to be scrupulously adherent to truth. I only object to him that he has set up his failures against the united testimony of six or eight men, in eminence not his inferiors, and fully competent, as himself, as practical anatomists, to determine a question of fact.

He again refers to the experiments of trials made on brutes, and adverts to his own, in which *he did not succeed*—page 127; and he mentions **Slade**[*] as quoted for "the liquor injected into the arterious vessels of the uterus being carried to the cotyledons, and, by the cavities of the cotyledons, into the substance of the placenta;" which, *he* (Dr M.) *thinks*, "*may signify no more* than effused on their unequal pulpy substance" (128): but can we consider these *thoughts* of his sufficient to overthrow the absolute affirmation of Dr **Slade**? although Dr M. tried *ineffectually* to do the same.

An experiment of **Vieussens**, wherein he asserts "that mercury, without breaking any vessel, or the effusion of one drop of blood, passed through the placenta surrounding each whelp, and *was pushed into the umbilical vessels themselves*," is equally deemed false; as being *strangely contrived*, and principally I suspect, because *it was unsuccessful in his hands*. And he deems his arguments strengthened, because **Vieussens** writes in a way which seems to show that *he did not believe in an anaſtomosis*. If he did not, I must confess, I think this experiment of so much the more weight, inasmuch as it is entirely opposed to that belief.

I shall not proceed further in this; but merely suggest that here is the authority of one man (*altogether failing in his object*) set up against the positive affirmations of five or six acknowledged anatomists, who assert their having accomplished that which he thus failed in effecting! It has too much the air of dogmatism; and is conformable to the general conduct of Dr M., who was perpetually at war with **Hunter**, **Meckel**, and others, in claiming his priority of discoveries, or underrating such as were made by others in which he had failed of success.

That he was not, however, himself, fully satisfied that he had overthrown the authority of **Cowper**, **Nortwyk**, and others, on this head, is, I think, proved by this quotation from him (page 134): "Though I think this sufficiently proved, (§ 16) yet, to shorten hereafter the dispute concerning the nourishment of a fœtus, I may remark, that it will be sufficient for my purpose in the present question,

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[*] Why Dr **Slade** is objected to by some writers on this subject as an old and fabulous writer of slender repute, I confess I cannot well conjecture. I have endeavoured to find any proof of such an assertion, but hitherto my attempts have been altogether unavailing. Let us not undervalue authority unless we can fully confirm our animadversions. Let us recollect that we ourselves wish to be regarded as such in all that we may venture to advance as fact.

to have part of the vessels of the secundines granted to be absorbents, though others were found to be continued, or to inosculate with those of the uterus."

He *thinks* (§ 17, page 134) that "the *red particles* of the blood are not *probably absorbed* by the small extremities of the umbilical veins;" and assigns his reasons for such belief, which are probably valid. Now, the very circumstance of red blood being found in the fœtus, if his position is true, would strongly tend to the inference of the continuous communication of vessels. Aware of this, he has attempted to illustrate the existence of this red blood in the fœtus, by the analogy of the chick in ovo. "I answer, (says he) without entering upon any philosophical comparison of the placenta in a fœtus, and of the lungs in respiring animals, that fœtuses of viviparous animals *have their red blood from the same source that chickens in ovo have theirs;* which can be no other than the action of their heart and of the vessels in their body and secundines."

In my opinion nothing more substantially tends to prove the intercommunication of vascularity in the viviparous fœtus, than this circumstance of red blood being found, where *no apparatus is conjoined for the agency of the external air.* In the *oviparous* embryo, cut off from all maternal communication, a different contrivance became requisite; and this is found in the *air vessel* at the large extremity of the egg, with which the incarcerated embryo or its vessels are in immediate and constant contact. In my inaugural essay 1794, I have stated the experiments I then made on this subject, in which, I found, (however that air is therein derived), that it is at the first, nearly, if not entirely pure oxygen gas; becoming deteriorated by carbonic acid as the process of incubation proceeds; and this probably by a process analogous to the respiration of living animals. Nor have I any doubt that every egg, however small, of every animal, requiring a similar process for sanguification, is equally provided with an air receptacle to accomplish the purpose of nature. Although thirty-five years have since elapsed, I know not that any physiologist has taken up an inquiry so interesting as this fact leads to*!

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* The vessels of the umbilicus in the egg appear to have a double intention. Separated as it is from the parent, it is essential that there should be a source of nutrition to the fœtal chick, and also one, capable of co-operating in the functions of sanguification. In the case of viviparous animals, both these are effect-

This scientific and learned physician, is, I find, (page 139), extremely prompt in urging the futility of a negative assertion, (even of Harvey) when it did not comport with his own views, against the evidence of "later observations." Why then are we to yield assent to his negative experiments, however speciously supported, in opposition to the positive "observations" of men, in no wise his inferiors! It is a hard rule that will not work both ways; and surely he cannot claim for his negatives, more than he is willing to allow for those of others!

I shall conclude my remarks on this gentleman's observations, by stating my opinion, that he has very sufficiently shown, that the fœtus is nourished solely by the umbilical vessels, both before and after its attachment to the uterus of the mother. That previous to such attachment, no inosculation of vessels can exist, is self-evident.

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ed directly by the parental blood. In the oviparous (and I refer principally to the chick, which has been chiefly attended to by physiologists), a portion of the umbilical vessels proceeds to the yolk, which is by that portion taken up and carried to the fœtus, for nutrition. Another portion, ramifying on the membranes, reaches the air vesicle in the larger extremity of the egg, and thereby the blood in its circulation is exposed to the agency of the air, as by the lungs in the living animal. This beautiful contrivance, rendered essential from the total disjunction of the parent and chick, was not unknown to the illustrious Aristotle, a name unrivalled in the annals of philosophical and physiological research. In his most elaborate treatise, "De Generatione Animalium," lib. 3, cap. 2, he says, "Principio corde constituto, et vena majore ab eo distincta, umbilici duo de vena eadem pertendunt: alter ad membranam, quæ luteum continet; alter ad membranam, cui secundarum species est, qua animal obvolutum continetur, quæ circa testæ membranam est. Altero igitur umbilico cibum ex luteo assumit, &c."—"Alter umbilicus ad secundas tendit."—"Membrana vero exteriore novissima sanguinolenta hæc perinde, ut illa utero, utuntur."

His learned commentator, Averrhois, on this part of the chapter, says, "Quod autem sensu apparet de procreatione pulli in ovo, est ut dicam. Primum, quod in ovo generatur, est cor, et vena magna orta ab ea. De qua vena protenduntur duo rami: quorum unus ad membranam proficiscitur similem secundis, quæ pullum circumvolvunt: alter vero ad membranam quæ luteum continet, quo pullus nutrimentum ex luteo accipit, et est sibi veluti umbilicus."

The shell of the egg, whilst protruding from the hen is soft and flexible; hence, the efforts to effect this protrusion give that greater rotundity to the extremity of the egg, which first comes in contact with the external air, and by which it soon hardens; the ultimate efforts, as it finally passes out, give a more pointed form, which is retained by the other extremity of the egg. How this provision of air is accomplished in the large extremity, I do not know; but it is always present.

It is therefore, in that early stage, by absorption alone; in which neither contiguous nor continuous vessels can be implicated. But, although such colourless fluids may be then fully adequate for the fœtal nutrition, it certainly does not follow that at a later period, when a new mode of existence (that of immediate connexion with the mother) is obvious, that the same species of nutrition is still effective. The very circumstance of this connexion becoming essential to the further development of the fœtal growth, seems conclusively to demonstrate that another species of nutrition is thenceforward required; and as the fluid furnished by the mother is blood alone, if that red blood cannot be *absorbed* "any where" (page 134), it necessarily follows that it must be conveyed by continuous vessels.

I shall take notice of NORTWYK's experiments very concisely—merely, indeed, to show what he thinks he saw, and affirms he had accomplished; leaving the reader who is desirous of entering more largely into the subject, to refer to the work itself, which will most amply repay him for its perusal, by the vast assemblage of facts he has accumulated on a variety of topics connected with this and other points bearing on the mysterious subject of generation and its results.

The fœtus of which he gives account was at about one-half the period of utero-gestation when the parent died. The injection was carefully made, prior to any dissection of the uterine contents, after it had been cautiously removed from the abdomen, with an injection which, he says, had never failed him, even in filling the minutest vessels of the cortical part of the brain (minima corticis cerebri vascula); "illaque implevi uterum nihil etiamnum violenti passum, et fœtu onustum suo."—About five ounces passed in, and he hesitated whether or not to augment it. Finally, he thought it best to abstain, as judging a sufficient amount was used to detect any communication of vessels; and that better, than if too greatly loadened, which might render the parts more obscure and confused, and might even be likely to separate the placenta from the uterus, by which the matter effused between them, would tend to destroy all his labour and pains.—Pp. 6, 7.

After describing the cautious dissection of the uterus, &c. he saw the "chorion per veram cellulosam substantiam uteri cavo adcretum esse," &c. "Eandem hanc cellulosam separanti *vasa occurrebant*

numerosa per totum ambitum, *ex chorio in uterum porrecta*, *impleta*."
—Page 9.

"*Vasa insuper numerosiora* videbantur, quibus extra placentam emergentibus, atque in uterinos poros insertis, *manifesta oculis communicatio patebat inter uteri et placentæ vasa*," &c.—Page 10.

"Dubitari demum non posse de immediata communicatione vasorum uterinorum cum ovi vasis, quoniam materies, per ramum arteriæ iliacæ matrici immissa, in *vasa placentæ et chorii profunde penetraverat*."—Page 11.

These quotations may suffice to substantiate the truth of Dr N.'s position, in opposition to the negative experiments and sophistic ingenuity of Dr Monro. Nor is it useless to remind the reader that Dr N. was previously an opponent to this opinion, which the evidence of his own eyes now compelled him to adopt. At page 101, offering, in opposition to the casuistry of Monro, to *show the very preparation itself*, still in his possession, he says, "Pœnitet, quod coactus fuerim, aperte obloqui viro de re anatomica meritissimo: at non licebat prætermittere experimentum, prima fronte nostro directe oppositum, totque præclaris ratiociniis stabilitum, ut sine adulatione (quam plane odi) candide fateri queam, *non hæsitaturum me fuisse versus ejusdem sententiam inclinare*, *nisi oculi* docuissent, totum hoc, in cæteris tam pretiosum, ædificium corruere ob singulare vasorum circa has partes systema supra dictum, quod cum doctissimus vir ignoraverit, mirum non est, si aliter sentire impulsus sit, causis gravissimis."—And he retorts with great severity on his learned antagonist, that "Lubricam errori viam stravit, simul et ansam præripuit observandis illis, qui placentæ uterique commercio famulantur, canalibus, materies nequaquam adcommodata operi," &c.

We come to perceive at last, that this curious inquiry is not settled by Monro, in opposition to the sentiments upheld of a direct communication. However specious the *arguments* employed, they are *still met* by the direct fact of experimental research; and if gentlemen think proper to deny facts, for the purpose of maintaining a favourite hypothesis, we may as well divest ourselves of all practical and experimental knowledge, and be satisfied by roaming in the fanciful creeds of our own creation!

I shall now mention a dissection made by Dr Donald Monro, with the view of confirming his father's opinions, as just detailed. In the same work is also a communication of a similar tendency, by his brother, Dr **Alexander Monro**, Jun.; which however, I do not think necessary particularly to refer to, as the objections are of the same character I have already employed.

Physical and Literary Essays and Observations, Ed. 1754. Vol. I. p. 403. Dissection of a woman with child, &c. by Dr **Donald Monro.**

This gentleman was the son of **Alexander Monro**, the first teacher of anatomy in the University of Edinburgh, and brother of the late **Alexander Monro**, professor of anatomy there.

The dissection, &c. as stated by Dr M. appears unexceptionable, and might unquestionably be supposed to decide the question unequivocally—especially as being so confirmatory of his father's sentiments as given in the Edinburgh Medical Essays and Observations, Vol. II. (1747, 3d edit.) and apparently read in 1732, and which I have already adverted to. The paper occupies upwards of twenty-three pages, and would therefore be incompatible with the limits of this Journal. It is nevertheless of great interest, and well deserving the particular attention of any person who feels interested in the present discussion. I shall barely notice a few particulars.

The subject was six months in her pregnancy; and Dr D. **Monro** was requested by his father, to whose anatomical theatre it was brought, to examine it with a particular view to this question of the assumed anastomosis of the vessels of the womb and secundines; "as **Nortwyk** (Hist. Uteri. Hum. p. 1, § 7, and p. 2, § 83) affirms there are, and **Haller**, in his Primæ Lineæ, (§ 830) seems to allege; though in private conversation with this last named gentleman, when I was his scholar at Gottingen, he told me that what he had wrote concerning that subject was upon the authority of others, and not from his own observation; for that he had had three women with child for subjects whose bodies he had injected and dissected, but had found nothing like an anastomosis between the uterine and secundary vessels in any of them: so *that he now* believed there was no such anastomosis as was alleged." P. 404.

This is an important statement, and tends greatly to destroy our confidence in **Haller**'s assertions and writings, if the fact be correctly given. It is not mentioned in what year this conversation passed, and hence it will be difficult to compare dates between the the parties. I shall here only remark that **Haller** in his Elem. Physiol. Vol. VIII. (edit. of 1766, Berne, nearly twelve years after the paper of **Monro**), page 210, refers expressly to **Monro**'s paper, and to the part at which he confidently expresses (page 419) his own opinion that there is no anastomosis. Why he should not in this place, and with the paper under notice before him, state this as being likewise his own opinion, if so was the fact, I cannot perceive; and especially, as afterwards (p. 248, § 34) he says, "contraria quidem sunt nonnullorum, quæ (argumenta) ex adversariis repetimus. Nempe per matris vulnera negarunt aliqui cl. viri fœtum exsanguem reddi, nos adfirmamus. Ut in omni autem experimento, major est vis adfirmantis periculi, quam negantis, cum obstacula varia effectum naturalem possint morari, causæ alicuæ eum eventum producere nequeant, quid sola partium fabrica sequi potest."

This he follows up with numerous references of affirmed cases of the fœtus becoming exsanguinated by the loss of blood from the mother; and he expressly notices the case of M. MERY, which I formerly stated; and finally concludes the section by the following remark: "*Hæc omnia ostendunt*, sanguinem fœtus de placenta effluere, neque cæcam adeo esse hujus superficiem: deinde vim, qua sanguis per vasa placentæ movetur, non esse exiguam: et *demum sanguinem fœtus in matrem redire et per ejus vulnera effluere.*" This does not look like an abandonment of his previous sentiment!

Page 250, § 35, entitled "Injecti in Matrem Liquores in Fœtum transeunt." He has here collected a variety of proofs of such being the case from COWPER, VIEUSSENS, NORTWYK, &c. adding—"Hæc experimenta eo plus habent virium, quod per mille causas, liquor in tenuissima vasa inmissus, vim suam amittere, stagnare, neque per eas angustias in fœtum transire possit, *quod quidem et* ALEXANDRO MONRO *accidisse potuit et* ROEDERERO; *cum nulla fraus subesse possit experimento, in quo materies matris vasis injecta in vasa umbilicalia fœtus penetravit.* Novimus enim, quam extemplo in massam informem injecta massa ceracea cogatur, quamprimum ex vasa effusa; parietibus desiit coerceri.

"Quare *nisi viæ continuæ* a matre in fœtus vasa ducerent, *nunquam alius eventus* injectionis deberet expectari, *neque posset evitari*, quin extra vasa impulsus liquor effunderetur, si uterus ostiis hiat: aut in venas uteri idem humor rediret, si nulla sunt in ejus interna superficie ostia.

"Iterum *et ego* et cl. ROEDERER *ceram in cellulosam telam quæ chorion est, impulimus.*" "Proximum videtur, ad conciliandos eventus, vasa inter uterum et fœtum media, in utraque chorio nuda et placentali pertenea esse, ut rarius integra vim injectæ ceræ sustineant, eamque ad vasa umbilici ducant, plerumque, vero, abrupta in cellulosam telam dimittant, qui meus et ROEDERERI fuit successus."

Here then we perceive no doubt in the mind of this great man of the intercommunication. He further sanctions the opinion from experiments, &c. of ALBINUS and ROHAULT; and I feel therefore persuaded that MONRO must rather have misunderstood him, than that he should, after so many years had elapsed, have firmly adhered to his opinion in opposition to his so affirmed belief.

In relation to the case of MONRO, then, interesting as it undoubtedly is, I cannot but conceive it a failure in his hands, and that the negative proof thence derived is not capable of overturning the positive experiments of other more successful anatomists.

This case of MONRO, however, leads me to observe that, *published*, as I have before mentioned, in the Physical and Literary Essays of Edinburgh in the year 1754, it is not even hinted at *by Mr* JOHN HUNTER in his essay "on the Structure of the Placenta," printed in his "Observations," &c. in 1786. He there relates a case of injection of the veins and arteries of a pregnant woman by Dr M'KENZIE in 1754, and gives his own statement of the dissection—claiming for himself the discovery of the actual method of maternal and fœtal connection. As Mr H. *is said* rarely to have read on the subjects that employed his pen, it may reasonably be anticipated that he makes no allusion to the various authorities I have enumerated, or to their experiments. That they must have been known, if not familiar to him, I judge however from the very commencement of his essay. "The connection (says he) between the mother and fœtus in the human subject *has in every age* in which science has been cultivated called forth the anatomist, the physiologist, and even the philosopher; but both that connection, and the structure of the parts which form the connection, were unknown until about the year 1754," &c. It is not my intention to take up the consideration of this very interesting paper further than to remark, that it has many ideas in common with the MONROS, and yet differs in others so greatly, as to evince that even these great men, both equally disclaiming a *direct* communication between the mother and child, are not agreed between themselves. Whose views, then, even of that side of the question, are *we* to accredit? When these discrepancies are settled between those contending against any immediate connection of vessels, it will still be far from prostrating the positive assertions founded on their own experiments, which I have adduced from others.

The opinions particularly opposed to a *direct* communication be-between the parent and fœtus may be regarded as three-fold—those of **Monro**, J. **Hunter**, and Dr **Blundel**. Much as they oppose argumentatively, and by assertion, this opinion, they are however by no means decided amongst themselves.

Monro speaks of cells, into which the uterine vessels, contorted at their extremities, pour forth their contents. In these cells also are said to open the extremities of the placental vessels, which absorb the blood, or a part of it, for the fœtal support. We must presume a similar series of cells for the deposit of the fœtal blood by the umbilical arteries, in order to be absorbed and carried back to the mother by the uterine veins!

Hunter considers the placental apparatus to be like the cells of a sponge—all the cells intercommunicating; the uterine vessels pouring their contents into them, and the placental vessels taking them up and carrying them to the fœtus. As far as I can perceive, little or no explanation is given how the blood is conveyed back from the fœtus by the umbilical arteries, to be carried to the mother by the uterine veins.

Blundel, apparently aware of this difficulty, whilst he assumes the same spongy texture of the placenta, and supposes it to be filled with the fœtal and maternal blood, affirms, that although so nearly approximated, these two kinds of blood are never in actual contact. He says the maternal blood lodges in the cells; whilst the fœtal blood is contained in its vessels: thus both are separated by an exceedingly thin vascular membrane. In order to explain the source of nutrition, he is then under the necessity of supposing a communication to exist between the cells of the fœtal vessels by means of *very minute pores*, impervious to the red blood, but transmitting the more subtle parts; viz. serum and coagulable lymph to the fœtal vessels!—pores, which he admits (I think) have not been demonstrated!

Now, without dwelling on the various speculations arising out of these supposed structures, I shall only ask, wherein, by them, the physiological question is simplified, or rendered more intelligible as to its final object, by the contrivances with which the opponents of a *direct* communication are thus obliged to invest dame nature in her secret domains, in discordance with those gentlemen who, in their own successful experiments, have followed up a *more simple* process of interconnexion!

Having now concluded what I had to say on the subject matter in dispute; I may once more, I think, affirm, that the verification of either side involves no point of practical importance; and consequently, that either may be accredited and taught without injury to the hearer, or in any way implicating the character and standing of a teacher.

May I be permitted to ask, whether the question has been at all settled by becoming one of public investigation in a court of justice? Has one proselyte been made by all the learned discussions and inquiries of the counsel on either side, or by the contradictory evidence of the witnesses? After all, is it not clear that a communication exists, continuous, or contiguous, from which the same result ensues, viz. the nutrition of the fœtus by means of the maternal blood, through the medium of the umbilical vein? The fact, accomplished as it may be, is, to us, of little importance; its full value is known only to the little stranger, who is hereby progressing to the portals of life.

However interesting, then, as a mere subject of physiological investigation; this, with many other questions relating to the animal economy, may possibly never be decided to the perfect conviction of every one. The subject of secretion is altogether mysterious; as are all the ultimate and minute actions of the invisible circulation; and, whatever opinions we may hold on any of them, we surely are not amenable to the censure of others from whom we may chance conscientiously to differ. The time it is to be hoped is passed in which we are to be fettered by the trammels of authority. If not so, let me ask, who are the undisputed arbiters of speculative physiology? Who of the profession of medicine will now consent to give up his own judgment on speculative points to any individual, unless something more than argument may prevail to change it? What has our profession gained by the degrading prospect exhibited of medical opinions canvassed and cross-examined in a court of justice? If we still have to admit that certain opprobria remain to medicine; at least let us not be obliged to enumerate professional dissensions as amongst the number.

ARTICLE II.—*Notices in Pathology and Therapeutics.* By GEORGE B. WOOD, M.D. *Professor of Chemistry in the Philadelphia College of Pharmacy.*

Read before the College of Physicians, Dec. 30th, 1828.

Facts occasionally present themselves to the observation of the medical practitioner, and ideas result from his reflexion, of a nature too isolated or trivial to be communicated in a connected essay or treatise, which may, nevertheless, have a certain degree of merit; and, if collected together from many sources, may form, in the aggregate, no contemptible addition to the general mass of knowledge. Whether the following notices can properly be considered as coming under this character, others, perhaps, will be better able to decide than their author.

I. Experiments made by M. FLOURENS, and other French physiologists, seem to authorize the supposition that the power of controlling and directing muscular movements resides in the cerebellum. When this organ is materially injured, individual contractions may still take place under the influence of the will; but the animal is no longer able to associate its motions, so as to walk, or fly, or to perform accurately any other office which requires a concordant operation of many voluntary muscles. The following case may, perhaps, in some measure, illustrate this position.

The patient was a boy between three and four years of age, and before the attack on account of which I attended him, had been healthy, active, and intelligent. The attention of the parents was first attracted to his case by observing that he was unable to walk directly forward, and they immediately applied for medical advice. This was on the morning of the 4th of July last. Upon visiting the patient, I was struck at the first glance, with an appearance of the countenance very unusual at his age. There was a slight contraction of the brow, and a fixedness in the direction of the eye, indicating a strong effort to collect the thoughts, while the vacant expression of the other features implied a want of success in the effort, altogether or closely resembling the effect of intoxication. I have often witnessed a similar expression of face in drunken people, endeavouring to assume a look of intelligence. The child did not speak of his own accord, and in answer to questions simply expressed assent or dissent. To his mother and myself he seemed to pay little attention; but when spoken to loudly, and in a tone of authority by his father, he would try to do as directed, protruding his tongue, holding out his hand, and even attempting to walk. When placed upon his feet, he could stand for a short time; but, on attempting to proceed forward, invariably moved towards the left, and soon fell upon the floor in the same direction. In the sitting or standing posture, his head always inclined towards the left shoulder; and this, next to the expression of the countenance, was the most striking symptom in the case. There was no loss of sensation, and the muscles were in some measure under the control of the will; but he was unable to associate their motions with accuracy. The tongue was slightly covered with a whitish fur, and the pulse was more frequent than natural, though not very highly excited. There was no flushing of the face, no strong beating of the carotids, no apparent pain in the head; and the only circumstance which directed my attention to the brain was the peculiarity in the *mental* operations and muscular movements of the child. He had been the day before taking a long walk in the sun, which might have induced the disease.

Having some time previously read an account of the experiments of M. Flourens, it occurred to me that the symptoms might be explained upon the supposition that the cerebellum was in a disordered state; and without mentioning my view of the case, or hinting at the part I supposed to be affected, I requested the mother to observe very strictly whether the child might not make some complaint, or exhibit some sign, which would enable us to ascertain the existence of pain in some particular spot. In the mean time, as the complaint might possibly depend upon irritation of the bowels, six grains of calomel were prescribed, to be followed by castor oil. In the evening the medicine had operated without producing any favourable change. There was now some heat of skin, and the pulse was rather more excited than in the morning. Directions were left that four ounces of blood should be taken from the arm, and doses of the saline draught with tartarized antimony administered at short intervals.

On the morning of the 5th, the skin was moist, and cooler than in the preceding evening; and there was greater ability to walk, though the steps were still tottering, the inclination to the left side as observable as ever, and the other symptoms unchanged. The saline draught was continued. Hitherto no indication of uneasiness in the head had been presented; but in the afternoon of this day, his mother took notice that he more than once placed his hand on the back of his head, immediately behind the left ear, at the same time saying oh! as if in pain. This being considered a sufficient evidence of the locality of the diseased action, eighteen leeches were ordered to be applied as near the spot as possible. The draught was continued.

On the 6th, there was rather more command over the muscles, and general self-possession observable; though no decided change had taken place. Castor oil was freely administered, and a large blister applied to the back of the neck; the diaphoretic mixture which was suspended during the operation of the oil being resumed in the evening. The blister drew well, and on the morning of the 7th I was pleased to find the child greatly improved. His eye was now bright and intelligent; he spoke freely and of his own accord; and though weak and somewhat tottering, could stand perfectly upright, and walk without inclining to the left side. On the 8th, he was well.

It is hardly necessary to observe that, throughout the case, the diet was exceedingly simple, consisting only of thin gruel or barley water.

II. The alarming consequences which occasionally follow the recession of certain cutaneous eruptions, after the application of repellent articles, are familiar to every practitioner; but I do not think that erysipelas is generally considered as one of the diseases in which such a recession is to be much apprehended. Local applications of an irritating nature are, I believe, usually avoided from the fear rather of aggravating the inflammation of the skin, than of transferring it to other and more dangerous situations. The subjoined case may tend to show that the latter source of danger is not to be despised.

In the spring of the year 1825, I was called into the country to visit a gentleman about 70 years old, in consultation with a very respectable physician who resided in the neighbourhood. His complaint was erysipelas of the face, which had been preceded by a chill and fever, and was attended with the usual symptoms. A blister over the forehead prevented the inflammation from reaching the scalp; but it extended rapidly downwards, embracing the whole face and anterior part of the neck. There was much swelling of the cheeks with hardness and severe burning pain. As the constitution of the patient was rather feeble, and his pulse by no means strongly excited, we abstained from the lancet. Some blood was taken from the most inflamed part by leeches; the bowels were freely opened; refrigerant and diaphoretic medicines were administered; calomel was occasionally interposed in very small doses as an alterative; and, with the exception of the leeches beforementioned, and a blister placed across the forehead, and down the temples in order to protect the scalp, rye-meal was the principal local application.

Under this treatment the patient gradually mended. The tongue cleaned, the pulse was reduced to the healthy standard, the intellect became clear, and the inflammation of the face subsided, leaving some ulcerated openings about the eyes, from which pus, and small quantities of dead cellular membrane were discharged. The eruption, however, still existed on the anterior part of the throat, and was extending down the breast; but there was no pain, little soreness to the touch, and scarcely any sympathetic disorder of the constitution.

Decoction of bark was advised, with a nourishing diet, and the application of a blister, should the disorder seem disposed to extend over the abdomen. The bark was tried, but as it purged even when combined with small doses of laudanum, was laid aside. Instead of the blister, a solution of corrosive sublimate, which had recently been recommended in a medical work of authority, was applied to the inflamed surface, which now extended very nearly to the pit of the stomach. This was on the morning of the eighth day from the first appearance of the local disease. I saw the patient in the afternoon. The progress of the inflammation appeared to have been completely arrested by the corrosive sublimate; and the skin wherever the solution had been applied, was much less florid than before; but the subcutaneous parts on the left side of the chest were enormously distended, and as hard almost as a stone, presenting the appearance of an enlarged and inflamed mamma in the female. The tumour was also somewhat painful on pressure, and the integuments were of a yellowish colour, such as we frequently see in a bruised part after the application of lead water. At the same time there were about the patient signs of enfeebled strength which excited no little alarm. A large blister was now placed over the inflamed breast, and a supporting plan of treatment was adopted. The debility, however, continued to increase; and on the following morning we found him with a cool skin, a faltering pulse, and a hurried respiration; though his mind was perfectly collected, and the state of the tongue indicated the absence of stomachic and intestinal irritation. The erysipelatous affection of the skin was, perhaps, still further diminished; but the swelling and hardness of the breast remained without alteration. Notwithstanding the exhibition of stimulants and nourishment, proportioned, as we thought, to the exigencies of the case, the system rapidly sank, the skin became cold and clammy, the pulse almost imperceptible, the breathing exceedingly laborious; and on the commencement of the fourth day from the use of the corrosive sublimate, the patient expired, retaining the possession of his mental faculties almost to the last moment.

Was death, in this instance, the consequence of debility resulting from the shock which the erysipelatous disease had made upon an aged and weakened frame, or was it produced by the transfer of irritation from the skin to the parts beneath it, and perhaps, to some portion of the contents of the chest? I am inclined to believe, that without this new irritation, the patient might have surmounted the weakness which supervened upon the declining violence of the erysipelas, and that a blister might have safely arrested the downward progress of the superficial inflammation. The same objection does not apply to blisters as to those repellents which produce no permanent impression upon the skin. The former, while they substitute their own action for that of the disease, excite a lasting inflammation, which serves to fix the morbid tendencies of the system in its neighbourhood, and to prevent a sudden transfer to internal and vital organs. The cutaneous inflammation which covered the chest anteriorly was not in itself adequate to the production of the alarming constitutional symptoms. It was attended with little or no pain, and was of that slight superficial kind which we sometimes see spreading successively over every part of the body, without destroying life. Nor in fact did the patient begin to sink, till after the partial removal of the erysipelatous eruption by the mercurial solution. I regret that circumstances prevented me from making an examination of the body after death.

III. A partial suspension of the cerebral functions is well known to be an occasional attendant upon irritation in the stomach. In some instances the symptoms so closely resemble those of diseased brain that the physician is in some danger of mistaking the real seat of the disorder, and consequently of misapplying his remedies. We may, however, generally form a correct judgment from the preceding history of the case; and when this cannot be ascertained, may often satisfy ourselves by observing the effects of pressure upon the epigastrium.

A young man, an engraver by profession, and subject to dyspepsia, was suddenly attacked about an hour after his evening meal with an affection supposed to be apoplectic. When I arrived he was lying on his back, without motion, wholly unable to see or hear, and showing no sign of sensibility, even when pretty smartly shaken. He had not fainted; for the respiration and circulation continued; and the absence of stertor, with the natural condition of the pulse, was incompatible with the notion that the disease was apoplexy. Having learned that he had eaten cucumbers and whortleberries at his tea, and that he had afterwards complained of headach with some nausea, I had little doubt that the root of the evil would be found in the stomach. An emetic was accordingly administered, which, after a much longer interval than usual, operated freely, and brought away the undigested berries and cucumbers, which were undoubtedly the cause of irritation. Sensibility was now speedily restored; and after an attack of most violent spasm in the bowels, which was relieved by laudanum and castor oil, the patient recovered his usual health. He had never before been affected in a similar manner.

Little more than a month has passed since I was requested to visit a gentleman said to be in a dying state. I found him apparently without sensation, his eyes open and turned up, his hands clenched, and his body alternately motionless, and agitated by sudden and universal tremors, which caused the bed to shake beneath him. He was a stranger, and there was no one present who could give me a history of his case. In order to explore into its nature I placed my hand upon his epigastrium; but scarcely had I touched the skin when he started up as though a bullet had been driven through him. Uncertain whether the coincidence might not be accidental, I repeated the experiment several times, and at each time the slightest pressure was sufficient to throw the whole frame into immediate and violent, through brief convulsions. Sufficient evidence was thus afforded of the seat of the disease, but not of the precise nature of the irritation. As his pulse was active I bled him freely, and immediately afterwards applied a large sinapism over the region of his stomach. Consciousness was so far restored a few minutes after the bleeding, that upon being asked in a loud voice if he felt sickness or pain in the stomach, he nodded in the affirmative. An injection of assafœtida was now administered; and under the united influence of this remedy and the mustard plaster, he revived to some knowledge of his situation, and was able to drink very freely of warm water, which I urged upon him. This soon produced the discharge of a considerable quantity of acid liquors from his stomach, and restored him for a time to complete consciousness. He now told me that he was subject to gout, of which he had recently had an attack in his foot, but had relieved himself by bathing the affected part with hot vinegar. The nature of the case was evident. While he was yet speaking, he was seized with a sudden spasm of the stomach, which threw him into his former state; and this alternation of consciousness and insensibility was repeated several times within the course of a few minutes, each return of pain being so severe as at first to throw the whole nervous system into violent agitation, and then to overwhelm it for a time in complete torpor. I now applied sinapisms to the feet, and gave a mixture of laudanum and the aromatic spirits of ammonia; and at the end of about four hours from the commencement of the attack, left my patient very greatly relieved. A dose of the compound tincture of rhubarb, with a proper regulation of the diet, was afterwards sufficient to complete the cure.

I might proceed in this desultory way to enumerate many other cases which, at the time of their occurrence, possessed, either from novelty or imagined importance, sufficient interest to induce me to record them; but we are apt to overrate the value of facts which fall under our personal observation, and, perhaps, I should rather apologize for the trivial character of the statements already made, than offer others having no greater claims to attention.

ARTICLE III.—*Remarks on the Remedial Value of Arsenic.* By D. THEODORE COXE, M.D.

[Read before the Kappa Lambda Society of Philadelphia, April 22, 1829.]

It is a trite remark that poisons in small doses are our best medicines; and our best medicines in large doses, poisons. This observation will forcibly apply to *arsenic*, upon which I propose at this time to make a few remarks; as no one questions its poisonous nature, and few are ignorant of its remedial value. Though administered in various forms, my remarks will apply principally to the familiar one of Fowler's *solution*, or arsenite of potassa. Except as an escharotic externally, I have myself never employed it in any other shape; and indeed incline to the belief, that in the solid form, from its comparative insolubility and other causes, it must often prove unmanageable and useless, if not dangerous. Many persons even suppose that it does not produce the same effects as when in combination and solution. The case too would very rarely present itself, where the solution would not answer every purpose better than the article in substance, supposing them to be endowed with the same properties. If ten drops contain about the twelfth of a grain of arsenic, and this is a suitable dose to begin with in adults, we can readily guage the quantity to any required circumstances. It may also thus be administered in suitable proportion to the youngest children with perfect safety, and often when it is next to impossible to give any thing else having greater bulk, or a more nauseous and undisguisable taste.

Arsenic was early introduced into the practice of medicine, has occasionally enjoyed high favour with the profession, and is still by some pretty extensively used. From a certain vague prejudice, however, against such articles, and, perhaps, from its having occasionally been productive of more evil than good, and disappointed high wrought expectations, it is not at present so conspicuous in the treatment of diseases, as it would seem to deserve.

Were we to be governed in our estimation of remedies by occasional disappointment, failure, or unfortunate accidents, arising rather from abuse, carelessness, rashness, or idiosyncrasy, than the real properties of the article, which one would stand its ground? Those most in use and most efficacious would be banished; for each in its turn has had something to answer for, under the heads of inefficacy or injury. It is not philosophical, nor worthy of the present enlightened period, to be influenced by such motives or views.

Arsenic is not so much to be dreaded, as some, in the plenitude of their caution, would have us suppose. If in commencing its use, we are moderate in the dose, and watch its effects, lest idiosyncrasy, or the state of the system should cause it to disagree, and lest subsequently we should carry it beyond the required point, we may give it without apprehension. The dose may be increased, not only gradually, but, comparatively speaking, rapidly; and it would even seem that the system bears it better at the time, is more beneficially affected, and suffers less subsequently, than when the increase is very gradual; and it is for this reason, probably, that the *period* or *time* requisite to produce the same effect is so much greater in the latter than in the former case. In other words, *large* doses (having once ascertained the fact of safety in the individual) continued for a *short* time, frequently produce better effects, are borne better, and affect the system less in the sequel, than the reverse, or *small* doses for a *long* time. That this is not always the case, I readily grant; but being convinced it occasionally occurs, I have thought proper to state the fact, that, being aware of it, we may act accordingly. What is interesting, also, in regard to this article, is that, (especially in some systems) it would seem to have its maximum, and to be told "thus far shalt thou go and no farther;" for cases are on record, where, after being carried, by gradual increase, to a certain extent, not one drop more of increase could be borne, though within and at the ne plus ultra point, it might be given for some time with advantage*.

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* In the third volume of the Philadelphia Medical Museum, a highly interesting case of leprous affection, combined with periodical headach, is related by Dr J. R. Coxe, in which the value of arsenic was very conspicuous, and in which any excess over fifty drops of Fowler's solution, was followed by unpleasant consequences. The case also illustrates the *safety* of the article, as the patient commenced with twenty drops three times a day, gradually increasing the dose, till at the end of six weeks, she took *fifty drops three times a day, and that for several weeks!* For a short time she took sixty drops three times a day, but this disagreed, and she returned to fifty. She took altogether, in the course of somewhat less than four years, between *a quart and three pints*. The remedy had a beneficial effect on both complaints, which returned, however, from time to time, when the medicine was laid aside, but always with diminished intensity.

It will not be necessary for me at this time to prove by examples that arsenic may be given in large doses with perfect safety. These instances are not so few, but that every reader must have met with more than one, even should his personal experience on the subject be limited; and they are so well authenticated, that the most sceptical would be satisfied: hence, we are not now surprised at the detail of cases, in which from 50 to 150 drops of the solution are exhibited with advantage daily, for days and even weeks.

With regard to the diseases in which arsenic has exhibited its best remedial powers, the catalogue is various and extensive. In *fevers*, its favourite field of action is the *intermittent*, though remittents, and even hectic, have yielded to its influence. In these last, however, particular circumstances or coincidences would seem to be requisite to its advantageous action; and indeed the conclusion would appear to be in some measure correct, that an active febrile state is in some way incompatible with its best effects. Certainly, it is more extensively useful in chronic complaints, where little or no fever exists, and in the apyrexia or remission of those which may be called acute, than in the opposite circumstances. Its properties of tonic and stimulant, may, perhaps, in some degree account for these phenomena; and, in corroboration, we may remark, that we are obliged occasionally to prepare the system for its use. Thus, after giving it at first unavailingly, perhaps injuriously, we bleed and purge the patient, and then again resorting to it, we are gratified with its striking and beneficial effects. In fevers then, of a periodical nature, arsenic is of high value; and in *all* affections of an anomalous, irregular description, whenever we detect any evidence of *periodicity*, we may prescribe it with strong prospect of success. In many such cases, its powers seem even to be superior to those of bark or quinine.

In illustration of the preceding remarks, I will here introduce a case, in which the influence of arsenic on the system was promptly and decidedly evinced.

John Phillips, a tailor, about 25 years of age, consulted me under the following circumstances:—Some years ago, whilst living at Lancaster, pursuing his occupation, he was attacked with a singular affection of his eyes, which, though then temporarily relieved, has returned annually and regularly at the approach of summer, ceasing when cold weather sets in: during the winter it is only when, from press of business or other causes, he sits up late at night working, that he experiences any, the slightest inconvenience, in his eyes.

At the time I first saw him, the following were the symptoms. At 4 o'clock, P.M., a dimness of vision came upon him, as if, to use his own expression, a piece of lint were placed upon his eyes. This increased gradually till bedtime, followed, or rather accompanied, by a copious secretion of tears, considerable redness of the tarsi, a sense of weakness in the orbit, and adhesion of the lids, particularly on awaking in the morning. After well washing the eyes he again went to work, suffering little inconvenience until four in the afternoon, when this troublesome guest regularly visited him.

His general system did not appear at all affected. There was nothing like chill, fever, nor swelling: his bowels were regular, his appetite good, strength unimpaired. His eyes alone suffered; and I consequently viewed the case as a quotidian intermittent, showing itself in this way, and attacking exclusively what was, perhaps, from the nature of his occupation, his weakest part. I accordingly directed him to take eight drops of Fowler's solution three times a day, and wash his eyes with a weak solution of sulphate of zinc. I afterwards regretted I had ordered this last; as though I am perfectly satisfied in my own mind on the subject, some may think it had a share in the cure. Be this as it may, after the ***first dose of arsenic*** the disorder returned no more—a slight debility in the eye for a few days being all that remained.

I would here remark that the Fowler's solution of the shops appears to vary much in strength and goodness; and upon inquiry it would seem to depend upon its age, exposure, and other causes. When it is fresh, not exposed too much to light, and often used, I believe it to be better than when old, constantly exposed to the light of the sun, and little used, *i. e.* kept very quiet.

The remedial value of arsenic in *cutaneous diseases*, especially those of a chronic description, is well known and appreciated. We are often delighted with its effects, after repeated and unavailing resort to other agents. The particular cases in which its utility is most manifest are familiar to the profession. We are acquainted with no remedy more efficacious in *lepra.* In elephantiasis, scurvy, *syphilitic blotches*, and many other similar affections which might be enumerated, it has, when judiciously administered, produced the best effects. The journals of the day are replete with such examples. Presuming, then, that its value in these cases is acknowledged and established, I would merely suggest, that instead of exhausting the materia medica in their treatment before trying the arsenic, and resorting to it as a last hope, we should have recourse to it at once; we should thus save time, and spare our patients much unnecessary inconvenience of various kinds. Offering a better chance of success than most other means, and being perfectly safe, it should on these and other accounts, be preferred.

I shall not here dwell minutely on its alleged powers in *cancerous* diseases, though certainly on this head there is abundant and authentic testimony. Even aggravated cases are said to have yielded to it; but I must confess I regard internal remedies in severe cases of cancer of such doubtful efficacy, that little reliance is to be placed on them. Where, however, the cancerous diathesis is early discovered, and before the system is materially affected, perhaps no remedy offers a better prospect of relief than this, which so thoroughly pervades every part of the animal economy with its perturbating and alterative effects. Other powerful alteratives, as mercury for example, have almost universally I believe been found injurious in this disease; and under these circumstances, we are, perhaps, justified in giving a fair trial to this, which has sometimes proved useful, and even exerted a kind of specific influence in these cases. Witness the striking cures occasionally occurring under the use of nostrums, in which arsenic is known to be the prominent ingredient. And if such events occur from imperfect and empirical treatment, surely we may look for more auspicious results under a judicious and enlightened practice. I repeat it, however, that much of our success in these cases will probably depend on an early resort to this valuable remedy, aided by such other means as the system may seem from time to time to demand.

In evidence of the all pervading influence of arsenic on the system, it may be mentioned that *corns* on the feet are said to have disappeared under its use; and, although this may be thought by some to have been merely a singular coincidence, yet, from the attendant circumstances, I feel disposed to look upon them as cause and effect. However this may be, perhaps few sufferers from this cause would be willing to saturate their system with a poison to insure a better *footing* in society. Whether its local application would answer the same purpose, I am not prepared to say.

This remedy has also been thought by some to have had a stimulant effect on the genitals, somewhat similar to that produced by cantharides. That this may have been the case in the human system is not at all improbable, reasoning from analogy; as I have myself seen the venereal orgasm evidently and in no slight degree excited in flies who were poisoned with it, and who, in the agonies of death, would approach each other, and perish in coitu.

When speaking of hectic fever, I should have mentioned that the remedial influence of arsenic is much extolled by some in consumption—the fever, colliquative sweats, and diarrhea attendant on such cases being sensibly checked and relieved by it. Instances are even given where the continued use of this article has appeared to prolong the lives of some members of consumptive families, whilst others, in the same families, who did not use it, have sunk into a premature grave.

Were I to enumerate all the diseases in which this valuable article of the materia medica has been of use, I should omit few in the nosological catalogue; but a sufficient number have been mentioned to substantiate its claims to high regard in the eyes of the profession; and having thus fulfilled the purpose I had in view, I forbear any further detail.

Before concluding, however, it will not, perhaps, be without its use to enumerate concisely the effects which usually follow when this substance has disagreed, either from the state of the system, idiosyncrasy, or too large or long continued doses. They are, nausea, loss of appetite, formication, fulness and swelling of the integuments, more especially of the face, pain in the bowels, giddiness in the head, and general malaise and sense of debility. A peculiar hue, or lobster-like redness, has also been not unfrequently observed, particularly in patients labouring under cutaneous disorders. All these, and other symptoms, varying in different individuals, warn us to beware, and will most frequently disappear as soon as the medicine is discontinued. Relief will, however, be often expedited, by the administration of mucilaginous and slightly stimulating liquids, by purgatives, by opium, &c. I do not here speak of those violent symptoms produced by a large quantity of this poison, taken intentionally or by mistake, and acting as a corrosive on the internal organs. Here other treatment would be required; and happy is the physician who, called in such an emergency, can by emesis promptly and effectually discharge the offending matter from the system. All other measures have too often proved utterly unavailing, and show that when once this noxious agent has fully established itself in the system, its deleterious influence is beyond our control.

There is one point concerning which there seems to be a wide discrepancy of opinion and testimony among physiologists and anatomists; some asserting that the bodies of those poisoned with arsenic putrefy *sooner*, and others *not as soon*, as under other circumstances. Not being able to reconcile these conflicting statements, I leave it, adhuc sub judice, for the consideration of others.

Having aimed neither at originality nor novelty in the preceding remarks, and having merely wished to refresh the memory of my brethren in regard to a valuable remedy, I trust the importance of the matter will excuse all deficiencies of manner in laying it before the society.

ARTICLE IV.—*On Hæmatemesis.* *By* D. FRANCIS CONDIE, M.D.

In a former number of this Journal[*], some observations were offered in relation to the pathology of spontaneous hemorrhages generally; and in a more recent one[†] an attempt was made to illustrate the views, then advanced, by applying them to the history and treatment of hæmoptysis: with a similar intent, we propose, on the present occasion, to consider the subject of hæmatemesis. The word hæmatemesis signifies literally a vomiting of blood. It is made use of to designate a disease accompanied with a discharge of blood from the stomach; the blood so discharged being often of a dark grumous appearance, mixed with mucus and other contents of the stomach, and in some cases, attended with bloody dejections, various in colour.

It may not be improper here to remark, that hæmatemesis is to be considered invariably as a symptom, and never as constituting the disease itself. It is as absurd to speak of an idiopathic vomiting of blood, as of an idiopathic diarrhea or ptyalism; the disease under which the patient in these cases labours, being strictly the morbid condition of the stomach, intestines, or salivary glands, by which the one or other of these profluvia is produced and kept up, and by the removal of which alone, can either be suspended. But as the hemorrhage in question is, in many instances, a symptom of the first importance, the mere discharge of blood being often so profuse, as to render serious, or even fatal, a morbid condition of the stomach, which might otherwise have been endured with comparative impunity; we trust that this will be a sufficient apology for occupying the attention of our readers with a brief examination into its causes, concomitant symptoms, and treatment.

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[*] No. VI. page 236.

[†] No. IX. page 23.

The phenomena which generally precede the discharge of blood by the mouth in cases of hæmatemesis are, some degree of flatulence, anxiety, lassitude, a sense of tension, with deep seated and frequently pungent pain in the left hypochondrium. The extremities become cold; a sweat breaks out over the body; the face and surface, generally, acquire a pallid hue, the pulse most commonly being small and feeble. The patients sometimes complain of vertigo, ringing in the ears, some affection of the sight, continual inclination to spit, and considerable thirst. These symptoms are said by Pinel to assume occasionally an intermittent character.

When the discharge of blood is connected with inflammation of the stomach, as when it has been excited by the ingestion of acrid substances, the symptoms which precede are those peculiar to such a condition of the organ. When it is connected with engorgement, or other diseased condition of the spleen or liver, it will be found that the abdomen presents more or less intumescence in the neighbourhood of these organs.

The more prominent of the foregoing symptoms increasing in violence, there generally occurs a violent pain in the epigastrium, accompanied by a most distressing nausea, and quickly followed by a vomiting of blood, either liquid or coagulated, various in colour, from a bright almost arterial red, to a dark purple, generally grumous, and mixed with mucus, or the ordinary contents of the stomach.

The vomiting may be attended with more or less straining, or it may take place without any effort. After the discharge of a quantity of blood, varying in extent in almost every case, the uneasy sensations and local pain, previously experienced by the patient, are considerably abated or entirely disappear; and the discharge of blood may itself cease, to be again repeated after a few minutes, or hours, or not until days, weeks or even months have elapsed, according as the case may vary from the causes by which the hemorrhage has been produced, the remedies employed, &c. When the vomiting has ceased the pulse becomes more developed, the surface loses, in some measure, its extreme paleness, the extremities regain their ordinary temperature; while, frequently, the skin becomes hot to the touch. The tongue is reddened at the point and edges, or, as often happens, assumes a bloody appearance: many times even an effusion of blood takes place from its surface. Not unfrequently, immediately after the vomiting, the patients experience slight colicky pains, followed by stools of a black appearance and fetid odour.

Hæmatemesis is not often accompanied by symptoms of very decided febrile excitement. The pulse is in most cases small and feeble, as in other irritations of the stomach; sometimes it is intermittent.

The duration of hæmatemesis is very various; the discharge of blood may be frequently repeated within a short space of time, or the blood *exhaled* by the vessels may accumulate in the stomach and fill more or less of its cavity. In this latter case, the left hypochondrium becomes distended, the features of the patient relaxed, his face pale, his eyes sunk and inanimate, and his strength exhausted; syncope soon ensues, or an obscure delirium and cold sweats followed speedily by death.

When hæmatemesis terminates favourably, the intensity of the symptoms gradually abates, and the blood disappears by degrees from the matters vomited, which, at length, become composed solely of a mucous fluid.

If, on the contrary, the disease terminates unfavourably, the vomiting of blood is repeated at short intervals, and frequently large quantities of the same are discharged likewise by stool. In consequence of the excessive loss of blood, the patient becomes sunk into a state of extreme debility. In a great degree his system would appear to be deprived of blood; his face, lips, and entire surface are of a deadly paleness; cold sweats, syncope, delirium or convulsions, and death soon follow.

"Hæmatemesis," observes PINEL, "may degenerate, either of itself, or by the concurrence of a variety of causes, into a chronic inflammation of the stomach, or into organic lesions of that or other organs; or it may produce, as its consequence, abdominal dropsy, dyspepsia, hectic fever, &c."

These terminations of hæmatemesis do undoubtedly very frequently occur, often indeed from the improper mode in which the hemorrhage has been treated; but more generally, we apprehend, they are to be attributed rather to the continuance of the same cause upon which the hemorrhage depended, than to the mere pre-existence of the latter.

The causes of hæmatemesis are very various. It occurs in the greatest number of instances, in individuals labouring under some organic disease of the stomach itself, or of the liver or spleen. It likewise frequently attacks females labouring under a suppression of the menses, or in whom this discharge is about to cease; and men affected with hemorrhoids, the hemorrhage from which has been suddenly suspended. MONRO and various other writers enumerate hæmatemesis among the diagnostic symptoms of fungus hæmatodes affecting the stomach. In the late work of ABERCROMBIE on the diseases of the stomach and alimentary canal, a case is related which terminated fatally by a vomiting of blood; and subsequent to death there was discovered an ulcer of some extent in the stomach. An aneurismal condition of the gastric vessels is also laid down by SAUVAGES as giving rise to this hemorrhage.

In the majority of cases which have fallen under our notice, the hæmatemesis has been accompanied by a diseased condition of the liver, consequent upon long continued and badly managed intermittent or remittent fever. The premature suppression of the former, is ranked by PINEL among its causes. In referring to the treatise of LATOUR upon hemorrhages, we find that, in the cases cited by him, of what he terms splanchnic hæmatemesis, in the majority, the vomiting of blood was connected with organic alteration or engorgement of the spleen.

Hæmatemesis may likewise be produced by any cause capable of exciting irritation or inflammation of the stomach; as blows or falls upon the epigastrium, irritating or corrosive substances introduced into the stomach, emetics, emmenagogues, the excessive use of spirituous liquors, &c. The hemorrhage has been known, also, to be brought on frequently by violent paroxysms of anger, by sudden alternations of atmospheric temperature, and by immersing the feet or hands in cold water while the body is in a state of perspiration.

What is the morbid change in the vessels of the stomach giving rise to a vomiting of blood? This is the important question, upon a correct solution of which the suppression of the hemorrhage, and in a great measure its prevention, will depend.

Upon the nature of spontaneous hemorrhages generally, and in relation to almost every point connected with their pathology, our ideas were vague, hypothetical and erroneous previously to the time of BICHAT, who, by his beautiful views upon exhalation, threw at once upon this subject that light, by which subsequent observers have been directed to the formation of a more rational and correct theory in regard to their nature and production.

We conceive that all the phenomena connected with hæmatemesis indicate that it depends upon an irritated or congested condition of the capillary system of the stomach, giving rise to an exhalation of blood: or in other words, hæmatemesis is the product of a hemorrhagic irritation seated in the mucous membrane of the gastric cavity.

To adduce all the arguments in favour of this opinion would cause us far to exceed the limits we are permitted to occupy on the present occasion. They are founded principally upon the nature of the remote and exciting causes, the accompanying symptoms and terminations of the hemorrhage, and the appearances brought to light by post mortem examinations.

PINEL has very correctly remarked that "hæmatemesis is capable of being complicated with different degrees of irritation, or even of inflammation of the stomach;" and we have seen that almost all the exciting causes are the same as those by which irritation or inflammation of that viscus is ordinarily produced: and even the organic alterations of the stomach, with which the hemorrhage is most frequently connected, are such as are either the product of, or are known to produce, an irritation in the parts in which they are developed. The connexion of hæmatemesis with gastritis is also noticed by BOISSEAU in the "Nosographie Organique;" while, in a very excellent paper on chronic inflammation of the stomach, drawn up from clinical observations, contained in a late periodical work*, it is stated that in many instances the disease was accompanied by a vomiting of blood to a considerable extent.

The precursory symptoms of hæmatemesis are the same as those which result from ordinary irritations of the stomach; and very often the hemorrhage is attended with pain, or at least tenderness of the epigastrium, great thirst, and occasionally fever.

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* Jahrbucher der Ambulatorischen Klinik zu Halle, Vol. II. p. 260, et seq.

In almost all the cases we have observed, gastric and febrile symptoms have at least preceded the discharge of blood. The existence of fever in connexion with hæmatemesis was noticed by **Hippocrates**, who considered this complication to render the prognosis less favourable: "Qui sanguinem vomunt, si quidem sine febre, salutare; si vero cum febre, malum.*" And **Pinel** makes nearly the same remark. "The disease," he says, "carries with it a real danger when accompanied with fever; for then we have cause to suspect an inflammatory affection, or even an organic lesion of the stomach, particularly when the disease continues for a long time."

It has been remarked that the effusion of blood from the stomach frequently takes place as a critical discharge in certain fevers, producing a solution of the disease. It is unnecessary to dilate upon this fact in order to show its bearing upon the point in question.

The existence of irritation of the stomach as a cause of hæmatemesis is further proved by its terminations. We have already said that the hemorrhage may degenerate into chronic gastritis, dyspepsia, organic alteration of the stomach, &c.† This is precisely similar to what occurs when hæmoptysis gives place to chronic pneumonia, abscess of the lungs, hepatization, &c., and indicates the intimate connexion between irritation or inflammation of an organ and spontaneous hemorrhage. Hæmoptysis has been known suddenly to cease, and be immediately succeeded by all the symptoms of acute inflammation of the lungs; so also the discharge of blood from the stomach may be suspended and give place to acute gastritis‡. Phenomena which so readily change into one another we have a right to conclude depend upon the same or very similar causes.

On referring to pathological anatomy for a solution of the present question, we find that the examination of the bodies of those who have died of hæmatemesis presents various morbid appearances of the stomach and other chylopoietic viscera. When it has been acute, and the discharge of blood considerable, destroying life very speedily, frequently no traces of disease are discovered in the stomach: in other instances its mucous membrane presents traces, to a greater or less extent, of inflammation; or this membrane has a dark appearance, its vessels being considerably dilated. M. PORTAL was able, in some instances, by injecting the gastric vessels, to throw the matter of the injection into the stomach. The stomach has likewise been found ulcerated, in various states of morbid alteration, affected with fungus hæmatodes, &c. A case of hæmatemesis is related by Dr MARTLAND, in one of the numbers of the Edinburgh Medical and Surgical Journal, in which the whole of the mucous membrane of the intestinal canal appeared, upon dissection, in a more or less gangrenous condition. In the stomach was contained half a pint of dark grumous blood. The liver was of a pale brown colour, smaller than natural, with a shrivelled, fissured surface, containing neither blood nor bile. In RUST's Magazine for 1828 an account of another case occurs, in which a violent vomiting of blood was followed in eight days by death. The stomach on examination was found to be in a state of inflammation, with softening, to a considerable extent, of all its coats.

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* Aphorisms, Sec. VII. 37.

† Nosographie Organique, Tom. I. p. 278.

‡ Ibid. loc. citat.

Subsequent to this hemorrhage, the liver is also discovered to be variously diseased, from simple engorgement to a state of complete scirrhus. The spleen is either indurated, or cartilaginous, or very soft; its parenchymatous structure being, to a greater or less degree, distended with black blood. The pancreas, in a few cases, has likewise presented more or less of a diseased condition. As our authorities for these facts we refer to the works of HOFFMAN, MORGAGNI, PORTAL, LATOUR, PINEL, &c.

We have remarked the frequency with which hæmatemesis is connected with a diseased condition of the liver and spleen; and we may here inquire how far the opinion entertained by many is true, which refers the production of this hemorrhage to an obstruction in the circulation through the veins of the stomach, and a consequent congestion of those vessels, produced by the diseased condition of the organs first mentioned. This doctrine was the one maintained by CULLEN. By GOOD the chief origin of hæmatemesis is referred to a venous congestion taking place in the vena portarum, after thirty-five years of age, which congestion alone, it is supposed, will frequently act upon the neighbouring arteries, and induce "what may be called a reflex plethora upon them, in consequence of their inability of unloading themselves."

But even if we were to admit that interruption to the free return of blood from the stomach can give rise to an engorged state of its vessels, and to a certain extent the fact is such, this will occasion no difference in the mode in which we suppose the hemorrhage consequent upon such congestion to be produced: it must still be by a hemorrhagic action of the capillary tissue, and neither by rupture, nor by the passage of the blood through the gaping extremities of the veins. We find that from the serous surfaces this same congestion produces an exhalation of a serous kind, giving rise to dropsies. Our own opinion is, that whether congestion be produced by impediments to the free circulation through the veins, or by any other cause, the actions subsequently set up in the capillaries of the part will be nearly the same in either case.

By the investigations of Portal, that peculiar affection in which considerable discharges of blood, of a very dark appearance, take place from the stomach, and frequently at the same time from the bowels also, to which the names melæna, morbus niger, profluvia melancholia, &c. have been given by the older writers, and the nature of which has given rise to not a little discussion, has been proved to be actually a hemorrhage from the stomach. According to this author, the blood in melæna, as well as in every variety of hæmatemesis, is exhaled from the mucous coat of the stomach; and after death, blood of the same black appearance as that which had been discharged by vomiting and stool, can be pressed from the vessels which open upon the internal surface of that organ.

Melæna has almost invariably been set down as a venous hemorrhage; but, observes Pinel, "the black colour of the blood discharged is not a sufficient reason for distinguishing melæna from hæmatemesis; because it is a well known fact, that when the blood, by whatever cause effused from the vessels, is retained for any length of time in the stomach, or the other cavities of the body, it will acquire this tint. This is the case with the stools, more or less of blood, which we occasionally meet with in acute hæmatemesis. There is, therefore, no difference between the seat and nature of melæna and of other hemorrhages from the stomach, excepting that hæmatemesis is, for the most part, an acute, melæna a chronic affection; an observation long since made by Tissot in reference to these diseases."

We may here add, in regard to the colour of the blood in hæmatemesis, that we have found it in the same attack, sometimes black, and sometimes of a bright red: even during the same access of vomiting, at first of a very dark, nearly black hue, it has become subsequently almost arterial.

The particular form of stomachic hemorrhage denominated melæna, is peculiarly liable to attack such individuals as have inhabited for any length of time tropical climates; those who have had repeated attacks of intermittent fever; habitual drunkards; those who lead a sedentary life, &c.

We know not whether it be necessary to enter into a refutation of the opinion once entertained, that hæmatemesis is frequently caused by a rupture of the blood vessels of the stomach, particularly of the spleno-gastric veins. Morgagni, in his thirty-sixth epistle, section 12, has entered into a long discussion, in which he has proved, that the supposition of such a rupture existing as a cause of gastric hemorrhage is, in almost every case, erroneous. "Many subjects," he remarks, "having been dissected, after enormous and fatal discharges from the stomach of a bloody fluid, there was not discovered any trace of the rupture or erosion of a vessel in that viscus. Besides, the vasa brevia were found to be very small, although the spleen was much enlarged, and their radicles extended themselves to the exterior of the stomach only, and did not penetrate to the interior coats." Many observations of a similar kind are to be found in the Sepulchretum of Bonetus. Van Swieten also, in his commentary on Boerhaave's aphorism 350, informs us, that on examining with great care the whole of the abdominal viscera, subsequent to death from hæmatemesis, he could find no trace of a ruptured vessel, nor any remarkable lesion. Pinel remarks likewise, that nothing in fact is more rare than the rupture of the gastric vessels, as a cause of hemorrhage, of which writers have said so much.

Few will be found, we suspect, at the present day, inclined to advocate the antiquated doctrine of a ruptured blood vessel in hæmatemesis: should, however, there be such, it is their duty to demonstrate the fact, rather than ours to refute it. All we can say, in the mean time, is, that the whole of the facts heretofore collected, are adverse to its admission.

So well convinced were physicians at one period, that the blood in this hemorrhage came from the vessels of the spleen, that it was denominated in the writings of Ettmuller and many others, "*vomicus spleniticorum.*" Pathological anatomy has not, however, in any instance confirmed this opinion*.

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* See Boisseau, Nos. Organ. Tom. I. p. 279.

Ulceration of the stomach is indirectly hinted at by ABERCROMBIE in his late work on the diseases of the stomach, &c. as being capable of producing even fatal hæmatemesis. The correctness of this idea we very much doubt. Blood may be effused from the surface of an ulcer, we are aware; but ulceration of the stomach must be very extensive indeed, or the hemorrhage produced by it will be scarcely appreciable. Peculiar varieties of ulcer, however, with fungous growth, give origin occasionally to very serious discharges of blood; not however by opening large vessels, as some have supposed, but by exhalation*.

On the subject of the prognosis in cases of hæmatemesis, we find ourselves at a loss how to reconcile our own experience of the fatality of the hemorrhage, when not opposed by an appropriate treatment, with the opinions of writers and of our friends in the profession, who look upon it, under ordinary circumstances, as of very little importance; some even considering it as salutary. The aphorism of HIPPOCRATES, that a vomiting of blood without fever is beneficial, has been already quoted. "When hæmatemesis occurs periodically," says ETTMULLER, "it is the most beneficial. When blood alone is discharged, if it be not in too great quantity, it is for the most part salutary." So also, the same writer declares, that when the hemorrhage arises from external causes, or from suppressed menses, "salutaris potius est, quam periculosus." According to CULLEN, hæmatemesis "is hardly ever a dangerous disease;" and DARWIN expressly declares, "that when the blood is evacuated by vomiting, it is less dangerous than by the bowels; and it is sometimes salutary to those who have diseased livers."

Notwithstanding the respectable opinions just quoted, we must be allowed to say that, generally speaking, we have found a vomiting of blood to be an affection of a very serious character. We have known it in a few hours to terminate life; and whenever it has been of any extent, the exsanguine appearance of our patients, the pale lip, sunk and inanimate eye, the tremulous pulse, slow and scarcely perceptible breathing and cold extremities, have convinced us, that to allow the hemorrhage to continue for a very short time longer would be to extinguish inevitably the remaining spark of life. We admit that very often the discharge of blood is of far less importance than the disease of the stomach by which it has been produced; though often, even when the latter is of a nature capable of being cured by an appropriate treatment, an opportunity for the employment of such treatment can be obtained only by first suspending the hemorrhage. Hæmatemesis ought never to be considered, therefore, a trifling or unimportant symptom; on the contrary, it is one which is always to be met by prompt and energetic, but at the same time judicious measures.

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* Notwithstanding what is asserted above as our deliberate opinion on the subject of ulceration as a cause of gastric hemorrhage, it is proper to mention, that a late writer of respectability expressly declares, that he has detected the opening of a bloodvessel from ulceration in cases of violent hæmatemesis. "Extensive discharges of blood from the stomach," he remarks, "occurring in the latter stages of chronic gastritis, were invariably a fatal symptom. In such cases it was found after death, that a bloodvessel of some size had been opened in the stomach by ulceration." Krukenberg. Jahrbüch. der Ambulat. Klinik, Vol. II. p. 274. BOISSEAU likewise observes that in the stomachs of those who have died of hæmatemesis, "vessels have been found, very rarely however, dilated and ruptured, in the midst of ulcerated portions of the mucous membrane."

The more healthy the constitution of the patient, the greater certainty is there of a permanent suspension of the effusion of blood. When, also, it is of recent occurrence, the cause by which it is produced, accidental; when excited by a violent fit of passion, by cold, or by slight external violence; when connected with suppressed menses, the discharge of blood being moderate in quantity and from the stomach only, we have then every reason to hope speedily to suppress it. Symptoms of organic alteration, to any extent, of the stomach or liver, or a state of things contrary to those enumerated above, should induce us to form an unfavourable prognosis: under the best devised plan of treatment, hæmatemesis will in such instances almost always prove fatal.

We have already seen that the generality of systematic writers have looked upon the occurrence of hæmatemesis as a circumstance of very little importance; and hence we are not to expect from their works any minute directions for its treatment. They have contented themselves with a general direction of the ordinary remedies supposed useful in other hemorrhages; as the acetate of lead, alum whey, sulphuric acid, the tincture of the muriate of iron, other preparations of this metal, the astringent wines, &c. Of these, misled by the directions of such writers, we were, in the commencement of our medical career, induced to make trial; and we found, that so far from any benefit resulting from their administration, they not unfrequently augmented the discharge of blood, or when they did arrest it, left us to treat a morbid condition of the stomach, speedily terminating, notwithstanding all our remedies, in death. By the older writers, when they did not consider the occurrence of the hemorrhage as the best, or indeed the only cure for engorgement of the abdominal viscera, the mode of treating it is considered at some length; but from false ideas as to its cause, the remedies they direct are generally equally injudicious with those first noticed. It is indeed only in a few of the more recent medical authors, and these principally of the continental school, that any thing like a rational plan for the management of hæmatemesis is to be met with.

Of course, the patient is to be kept in a state of perfect quietness. All ligatures, as well as such parts of his dress as press upon the abdomen, are to be removed, and the air of his chamber rendered rather cool than warm.

When the hemorrhage occurs in young persons, whose constitutions possess some degree of tone; when it is recent, and accompanied with much local pain and a hard, though small and contracted pulse; when it has arisen from external violence, from the ingestion of corrosive or irritating substances, or from exposure to cold,—venesection will be demanded. But in general, even in such cases, local depletion, particularly by cups to the epigastrium and over the region of the liver, is to be preferred. If the bowels are constipated, or are supposed to contain any matters capable of keeping up the irritation of the stomach, they should be gently evacuated by means of some mild enema. The thirst, which is often considerable and distressing, may be allayed by simple mucilaginous drinks, taken cold and slightly acidulated. We have found in these cases nothing preferable to toast-water.

When the hemorrhage has succeeded to a suppression of the menses, or of the hemorrhoidal flux, we are directed by the French practitioners to endeavour, as quickly as possible, to re-establish these latter evacuations, by the application of leeches to the vulva, or to the verge of the anus, as the case may be; by the use of stimulating pediluvia, made by infusing mustard in hot water, hot brine, &c. HIPPOCRATES had already said, that "females affected with a vomiting of blood are cured when the menstrual flux takes place." The administration of emmenagogues is, however, to be carefully abstained from.

It is very desirable that we should be in possession of a remedy capable of suspending promptly the discharge of blood; that, in this way, we may gain time for the employment of the means calculated to remove the morbid condition of the stomach giving rise to the hemorrhage, and by a continuance of which it may be expected to be kept up, or reproduced, after a short interval. This remedy we are persuaded is to be found in appropriate doses of ipecacuanha.

To this article the attention of the profession was first directed by a paper published in the fourth volume of the Transactions of the Dublin College of Physicians: in this Dr SHERIDAN reports five cases of hæmatemesis, in which the ipecacuanha was employed with the best effects. In the first of these cases the loss of blood had so far exhausted the patient's strength, that her pulse was scarcely perceptible, and her look was ghastly. The discharge of blood still continuing, death was momentarily expected. Thirty grains of ipecacuanha were immediately administered: the vomiting at first ceased for a few minutes, but then recommenced, and the patient threw up a quantity of clotted and fluid blood, the last of which was mixed with mucus. After this the vomiting entirely ceased, but she lay in an alarming state of exhaustion, pale and inanimate; the pulse and respiration scarce perceptible, and the animal heat almost gone. To rouse her from this state, warm flannels were directed to be applied to her extremities, with the lightest nutriment, and cordials in the smallest quantities, internally. In a few days she recovered a little strength; but soon after there came on considerable anasarca and ascites, which, however, gave way very readily to the use of aperients and diuretics, and the patient was soon perfectly recovered.

In another case, after a very considerable discharge of blood, the disease having continued at intervals for twenty-four hours, an emetic of ipecacuanha was administered. It remained some minutes on the patient's stomach, and then operated in three or four fits of vomiting, by which he threw up more than a pint of dark grumous blood. Here all the symptoms subsided: he found himself perfectly relieved; heat gradually diffused itself over his whole surface, which had been before cold: he fell asleep, a gentle perspiration ensued, his pulse became full, soft and regular, and he felt himself more free from pain, oppression or sickness, than he had for years before. The day after, he took a mercurial purge, which brought away from his bowels a great quantity of matter similar to what he had discharged by vomiting, but much darker, resembling the discharges in melæna. After the commission of some imprudences, the local symptoms, pain and oppression, &c. returned. A repetition of the emetic removed these, and his state of improvement was restored. The three remaining cases are of a very similar character.

Our own experience of the efficacy of ipecacuanha in suspending the vomiting of blood is as decidedly in its favour as that of Dr **SHERIDAN.**

In the foregoing cases, it is very evident that the ipecacuanha was administered with a view to its emetic effects. The production of emesis, however, is altogether unnecessary. We have, in many instances, seen the article succeed in arresting the discharge of blood without its inducing either vomiting or even nausea; and, whenever it is possible, we are persuaded that both these effects should be guarded against.

Emetics, it is true, have been proposed as a remedy in this and the other varieties of hemorrhage. In hæmatemesis, they are spoken of by **BRIEUDE**, in the Memoirs of the Society of Emulation, and by **GIRARD**, in his dissertation upon the disease, published in 1815. These gentlemen, however, confine their use solely to those very dangerous cases in which the blood accumulates in the stomach. The first writer we have met with, who recommends emetics as the principal remedy in this species of hemorrhage, is **DARWIN.** While in the third number of the American Journal of the Medical Sciences, Dr **CHAPMAN** relates one or two cases of hæmatemesis in which they were administered with the best effects.

But as we have already remarked, we are well convinced that the ipecacuanha acts, in arresting the discharge of blood from the stomach, by an impression upon this organ independent of the mere act of vomiting. When the modus operandi of the materia medica shall have been studied in reference to established physiological and pathological facts, it will be discovered, without doubt, that various remedies, including the one under consideration, have an immediate effect upon the mucous membrane, controlling or modifying the morbid conditions of its capillary system; and in this manner removing the irritation by which hæmatemesis, as well as other pathological phenomena, are produced. Let this, however, be as it may, it is a fact that, from its first introduction into practice, the ipecacuanha has been considered a remedy of considerable efficacy in many of the diseases of the mucous tissue; while our own experience, in connection with that of Dr **SHERIDAN**, has shown it to be one of the most prompt and certain means for arresting the discharge of blood in gastric hemorrhage.

The three following cases, briefly sketched, will show our mode of employing the remedy and its effects.

In the summer of 1827, we were requested to see a young woman who was vomiting blood. The patient was about eighteen years of age; she had suffered for a long time from attacks of intermittent fever, which had been finally suspended by large doses of the bark. She did not, however, recover her health; but remained in a state of languor, without appetite; her bowels constipated, the skin of a sallow hue, dry and harsh, her tongue foul. Occasionally she felt chilly and was immediately afterwards flushed with heat. She complained of pain in the head, and disinclination to motion. Menstruation was suspended, some tumefaction was experienced in the right hypochondrium, with tenderness of the epigastrium, and, frequently, violent attacks of gastralgia. When we saw her, she was discharging large quantities of dark coloured blood, partly fluid and partly coagulated; her face was pale, pulse small and feeble, tongue pointed, and red at the edges. Twenty grains of ipecacuanha were directed in one dose. This was taken late in the afternoon, and produced considerable vomiting, first of pure blood, then bloody mucus, and finally mucus alone. She now fell asleep, and awoke the next morning without nausea, but much exhausted. Her bowels were directed to be opened by an enema, and toast-water alone for food and drink. There was no return of the hemorrhage: in a few days remedies adapted to the morbid condition of the stomach and liver were entered upon; and the patient finally recovered, and has remained perfectly well to the present day.

In the spring of the same year we had under our care, with vomiting of blood, a female 46 years of age, of a robust habit and dark complexion. She had suffered for some time previous from irregularities of the menstrual flux, with a feeling of weight and uneasiness at the præcordia; occasionally dull pains in the epigastrium; frequent chills, followed by a burning heat of the skin; lowness of spirits and deficient appetite. For the few days before our visit she had frequently thrown up a quantity of blood by vomiting, and was then discharging it profusely. The pulse was contracted; skin dry and harsh, its temperature being somewhat increased; tongue furred in the centre, very red at the margin. Directed a scruple of ipecacuanha to be divided into four powders, one of which to be administered every hour. After the first had been taken, the vomiting was suspended: the remedy produced neither nausea nor vomiting. The ensuing day the patient was confined to toast-water; twelve ounces of blood were taken from the arm, and a purgative of calomel administered. The hemorrhage did not return, and an appropriate treatment very soon removed all symptoms of gastric disease. This patient has since enjoyed uninterrupted health.

A female 43 years of age, during the summer and autumn of 1828, had suffered from frequent attacks of fever and ague: emetics, purgatives, arsenic, and quinine were the remedies employed for its cure. The regular paroxysms of the fever had by these means been suspended; but the patient was left in a state of great muscular weakness, disinclined to motion, without appetite, and depressed in spirits. Her bowels were constipated; she was subject to frequent rigors succeeded by flushes of heat, and a burning in the palms of the hands; and there was considerable tumefaction of the abdomen, tenderness, with dull constant pain of the epigastrium, and great thirst. About the 10th of January last she was attacked with hæmatemesis: the discharge of blood was profuse, and when I saw her she presented all the appearances consequent upon excessive hemorrhage. A scruple of ipecacuanha in four powders, one to be taken every hour, was directed. Soon after the powders were commenced with, the hemorrhage ceased; but great thirst and nausea still continued. The next day the vomiting of blood returned, but not to so great an amount. Twenty grains of ipecacuanha were given at once, and a considerable quantity of mucus coloured with blood was brought up, when the hemorrhage and vomiting ceased. About two weeks subsequently the discharge of blood returned, but was immediately suspended by small doses of the ipecacuanha—three grains every hour. Notwithstanding every remedy subsequently employed in this case, the disease of the stomach and liver was of such a nature that the recovery of the patient has been extremely slow. As the gastric symptoms by degrees abated, an ascites was gradually developed, from which she is now rapidly recovering; and I have every prospect of being shortly able to restore her to perfect health.

Equally efficacious with the ipecacuanha, in the suspension of stomachic hemorrhage, we have found to be the administration of minute doses of calomel; say from one quarter to half a grain every hour. The remedy in these doses we have repeatedly employed, and never without the desired effect. Whether there is any difference in the set of cases to which one or other of the foregoing plans of treatment is particularly adapted, we have ourselves not been able to determine. The small doses of calomel will, of course, be preferred, whenever it may be deemed improper, or inexpedient, to risk the production of vomiting, an effect which will frequently result from even inconsiderable doses of the ipecacuanha; but in all cases in which the hemorrhage is profuse, and it is apprehended that the patient may speedily sink under it, we would prefer the latter, in consequence of the greater promptness with which it acts in suspending the effusion of blood.

After the violence of the hemorrhage is abated, we have experienced beneficial effects, in cases connected with hepatic disease, from the application of a blister in the neighbourhood of the liver.

In hæmatemesis occurring in females between eighteen and thirty years of age, preceded by great languor and oppression about the chest and præcordia, a sense of fulness in the latter, cough, dyspepsia, and sometimes pain in the breast, loss of appetite, headach, vertigo and disturbed sleep, a dulness of the eyes and a countenance expressive of much distress, a feeble pulse and constipated bowels,—Dr Hamilton has found, he declares, that the proper exhibition of purgatives, so as to produce a free evacuation from the bowels, affords an effectual means of removing the hemorrhage. "Suspended menstruation," remarks Dr H. "is not a necessary concomitant of this species of hemorrhage." Calomel was the purgative generally employed by this gentleman in these cases.

We have, also, treated stomachic hemorrhage by the administration of scruple doses of calomel; and in some instances with the most prompt and decided good effects. In general, however, we prefer the employment of the calomel in the small doses already indicated. From any other of the list of purgatives we should anticipate harm rather than advantage in hæmatemesis.

It cannot be expected that we should here enter into an enumeration of the measures proper to be pursued, subsequent to the suppression of the hemorrhage, in order to prevent its return. These will depend entirely upon the nature and extent of the morbid affection of the stomach and other viscera which are found to be present. Leeches to the stomach, a very plain and restricted diet, abstinence from all violent exercise and mental excitement, and the careful proscription of all tonics, astringents, and stimulants, will in almost every case be demanded.

The existence of fungus hæmatodes of the stomach, or of extensive organic alteration of that or any other viscus, will, of course, preclude all hopes of effecting a permanent cure.

ARTICLE V.—*On Emphysema of the Lungs as a Cause of Asthma; with two Cases. By* B. H. COATES, M.D. *one of the Physicians to the Pennsylvania Hospital.*

[Read before the Kappa Lambda Society, April 22, 1829.]

Asthma is a disease which has long been peculiarly embarrassing to the physician, from the excessive sufferings it occasions, and from the strong presumption of its never admitting of a cure. Any thing, therefore, that seems to promise a closer and more accurate discrimination of the different morbid changes which produce its symptoms, and in which it appears to consist, can hardly fail to be warmly welcomed by the philanthropic physician.

It is my object, in the recital of the two following cases, and in the remarks which follow them, to endeavour to show that emphysema of the lungs is of far more frequent occurrence than is commonly supposed; that it is an abundant cause, or rather means of increasing and perpetuating asthma; and that it is liable to be caused by various preliminary morbid changes, as, in these two instances, by tumours pressing on the trachea near its bifurcation.

Case 1.—*Asthma. Violent fits of spasmodic cough, threatening suffocation, and producing a longing for fresh air.—General emphysema of the lungs, with escape of air into the cellular tissue of the organ; bronchitis; aneurism of the arch of the aorta:—*

The notes of the following case were not prepared at the time. The dates are taken from records; while the description of the symptoms and of the morbid appearances, is drawn up from memory and inquiries. The statement of the results of dissection was subjected to the review and approbation of Dr W. D. GALLAHER, who kindly assisted me in the examination.

John Golder, a seaman, a native of New Jersey, aged about 35 years, was admitted into the Pennsylvania Hospital, August 18, 1828. He complained of the symptoms usually given as characterizing spasmodic asthma. His thorax was found of a large size, equal on the two sides and rounded. The motion of inspiration was quicker than that of expiration. On tapping the thorax with the fingers, and, about the same time, doing so to a person with healthy lungs, placed alongside of him, the thorax of Golder emitted a sound by far more distinct and hollow. The difference was perfectly perceptible to a number of auditors assembled together. No such difference was found between the opposite sides of the thorax. The respiratory murmur was much less distinct than in the natural state. No striking rattle of any character was perceived.

The patient was pronounced to suffer under emphysema of the lungs. He was placed under the common palliative treatment; consisting chiefly of strong anodynes, of occasional bleedings, and light diet of easy digestion. Temporary relief was experienced; and, after several fluctuations, he took his discharge on the 30th of August; and in the night of the 28th or 29th of September, he sent for me to his lodgings. I found him in a violent paroxysm, of which he had frequent returns, rapidly increasing in severity and continuity, until the 2d of October, when he died. These attacks were characterized by a dark and ghastly countenance, cold sweats, a pulse at last nearly imperceptible, incapability in general of resting in an inclined posture, and an anxious desire, even when excessively cold and unable to speak, of sitting by the open window. No other treatment remained to be tried than that employed before; and this was put in practice with exactly the same momentary relief. The patient had frequently complained of great distress in the central parts of his thorax; but without any acute pain, tearing sensation, or other symptom particularly referrible to the arch of the aorta.

Dissection. On stripping the corpse, a slight projection of the upper bone of the sternum was observed. This had not been noticed during life. The body had lost much of its muscularity, but the cellular membrane was bulky.

On opening the thorax, the lungs were found completely to fill the cavity, and did not collapse. The air cells were visible on the surface, and appeared about the size of millet seeds. Numerous small collections of air were also found in the cellular tissue of the lungs; as was evinced by the facility with which it could be impelled from one point to another with the finger. A small portion of serum was found in each pleura; which membranes were otherwise healthy. An unusual amount was also found in the pericardium; but this cavity and the heart were healthy.

Behind the first bone of the sternum was found a large tumour of considerable solidity; which proved to be an aneurism of the arch of the aorta, embracing the origins of the arteria innominata, left carotid, and left subclavian. The sac was nearly as large as a man's fist; and had evidently been the cause of the projection of the first bone of the sternum.

The trachea was found permanently changed in its figure where it had passed across the tumour. Its lining membrane was considerably inflamed; as was evinced by a smart red colour, and an increased amount of mucus.

The abdomen presented nothing remarkable, and the head was not examined.

The excessive dilatation and subsequent rupture of the air vessels of the lungs are consequences so natural after attacks of violent coughing, that it seems hardly necessary to employ much reasoning to demonstrate their probability. Accordingly, M. Laennec ascribes their production to that cause. In the present instance, it is, I think, evident that the aneurismal enlargement was the original cause of the cough; both by its direct irritation, by its distention of the surrounding plexus of nerves, and, finally, by its pressure on the trachea. Inflammation of this latter organ could have been separately produced; but, if this were not the case, the pressure of the arterial tumour was abundantly sufficient to give rise to it. The combined agency of all these causes was enough to account for a cough of such a character as is commonly directed to the removal of substances causing irritation in the trachea and its vicinity. When, by repeated and violent efforts, were added to this, first the over distention of the air cells of the lungs, and then their rupture, with the free effusion of air into the common cellular tissue of those organs, there were produced the further symptoms of a sense of suffocation, respiration limited in the extent of its motions, and at the highest state of dilatation of the thorax, giving rise to great labour and fatigue in the muscles employed in that function, extreme anxiety for fresh air, and convulsive; laborious, often repeated efforts to expel, by coughing, some bulky substance from the cavity of the chest. M. Laennec is of opinion that the anxiety for *cool* air, so peculiar to asthmatic affections, arises from the greater density of such, and the consequent more free supply of oxygen. I have heard doubts expressed of the capacity of the lungs for perceiving such a difference of density; but it appears to me that the fact is really so, the denser states of the atmosphere, as indicated by the barometer, always being more agreeable to respiration; though by inattentive observers, this circumstance is referred to coolness or dryness alone. In cases like the present, no reason can easily be assigned why coolness should in itself be agreeable, as the phenomenon in question was exhibited at periods of extreme coldness and prostration; and some other quality possessed by cool air must be looked for. Now, in a state of things where the lungs are so much enlarged as to distend the thorax beyond its natural size by their elasticity,—constituting it a plenum in its ordinary state of semi-inspiration, it does not appear unreasonable to suppose that the density of the small portion of air which can still be renewed at each inhalation may become a matter of great consequence.

In the following case, emphysema of the lungs will appear in a different distribution of the effused air, and at an earlier period of life; while, in the original cause of the attack, as inferred from the dissection, there will be found a singular resemblance.

The notes were made at the time of dissection; and the particulars of the previous symptoms collected by minute and careful inquiry, after the morbid appearances became known.

Case 2.—Chronic bronchitis; cholera infantum; asthma; picking at the nose; two years of age.—Emphysema of the lungs in huge masses, with a collection of air over the pericardium; pleurisy; strong cellular adhesion; tumour of the thymus body and lymphatic ganglions, pressing on the trachea; trachea inflamed; colon contracted; mucous membrane natural.

W—— H—— L——, who died aged two years and five days, was the child of healthy parents, natives of Denmark, and appeared to possess tolerable health, till about ten months old. About this time, being towards the end of winter, she appeared to suffer from repeated colds. To these, however, the parents did not think the assistance of a physician necessary. No peculiarity was then noticed in her cough. Early in the summer of 1828, she became affected with cholera infantum; to prescribe for which, my friend, Dr A. B. Tucker, was sent for. Dr T. treated the attack chiefly by astringents; and, after some teeth were cut, the child improved so much in health and flesh, that Dr T. discontinued his visits. At that time, the cough was not considered as of very particular consequence; and, about October, at eighteen months old, the child was weaned, in consequence of a deficiency in the supply of its parent's milk.

About six weeks before its death, the child's cough became very severe, with great apparent danger of suffocation. It was found necessary to hold it upright during the paroxysms; which were convulsive and fatiguing. About the same time, it became subject to smart bleedings at the nose. It was observed to be worse after eating. An increased quantity of mucus was expectorated. It was partially relieved by syrup of squills, the only medicine which was given to it. A short time previously to its death, it was affected with diarrhœa; but whether this had been of long continuance, we have not ascertained. The parents suspected worms; as the child was observed to pick its nose. None, however, were discovered in its discharges. No symptoms were observed in any way indicative of pleuritis. Dr T. was again called in, but found it in a dying state. The termination of its life took place soon after, apparently by actual suffocation.

Dissection, April —, 1829, sixteen hours after death. Body not much emaciated; remarkably enlarged along the lower end of the thorax. A small quantity of yellowish serum ran from the nose.

Thorax. Right pleura contains about an ounce and a half of yellowish serum. Its surface, vascular, and redder than that of the opposite side. An adhesion of considerable firmness, an inch and a half long, and three quarters of an inch wide, between the anterior part of the right lung and the mediastinum. Several large collections of *air* over various parts of the surface of both *lungs*; particularly a large one in the cellular substance of the before-mentioned adhesion, and extending in front of the pericardium. These collections principally affected the seams or lines of junction of the different lobules of the lungs. Their inner surfaces were smooth, intersected at irregular distances, with imperfect partitions, and, in places, produced into long, polished tubes. Numerous thin whitish collections of tuberculous matter, arranged in granular masses, over the surface of the right lung. Lungs exhibit an unusual quantity of bronchial mucus when cut.

Left pleura contains a little yellowish serum. A few of the same tuberculous infiltrations. Lungs otherwise similar.

Pericardium. About half an ounce of yellowish, flaky serum in the cavity. Otherwise natural.

Thymus gland and some adjacent *lymphatic glands*, hardened, nearly as hard as cartilage in some places. Whitish matter in some of the lymphatic glands. It appeared that the trachea, about its bifurcation, was pressed upon by the tumour.

Trachea. Lining membrane, of a high, vascular redness.

Abdomen. *Cavity* contains about an ounce of greenish serum.

Liver. Not thought to be larger than belongs to the age of the subject (two years). Natural. Gall bladder full.

Stomach natural. (Carefully examined).

Intestines. *Small intestines* examined in various places. No unnatural appearance detected, but a very considerable quantity of bile.

Large intestines extremely contracted. Sides in contact, except the cœcum, which was of its natural size. Mucous membrane not at all reddened or ulcerated. Bile copious. Examined in the same way as the small intestines.

Head not examined.

One of the principal inferences to be drawn from this case, relates to the fact of the occasional occurrence of asthma, from this as well other causes, in young children. The cases described by Dr PARRISH, under the name of a peculiar catarrhal complaint in young children, in the first volume of this Journal, p. 24, appear to me to partake strongly of the characters of asthma. It would also appear that the distention and rupture of the air vessels of the lungs were produced in the same manner in this as in the last instance; to wit, by the violent efforts to cough which resulted from the bronchitis, and its cause, or consequence, the pressure of the tumour on the trachea.

At the same time, the arrangement of the effused air, viz. in large masses, principally along the junction of the different lobes, is different from that in the preceding case, in which the gaseous collections were smaller, and irregularly dispersed along the surface of the viscus. This difference probably arose from the difference in density and closeness of texture between the infant and the adult.

Whether, in this instance, the production of the tumour was previous or subsequent to the bronchitis, is what cannot with certainty be ascertained, from the circumstance of the little patient not having been attended by a physician. I should, however, incline to the presumption that the mucous irritation was primary, and the other sympathetic. I base this upon the great frequency of the former, and the aptitude of ganglionic induration to be produced by previously existing disease.

This case may also serve as an example of the extravagant length to which are capable of being extended the popular prejudices about *worms*. The child had diarrhœa and picking at the nose; and, in consequence, we find such a distinct case of pulmonary disease referred to the improbable cause just assigned; an opinion which might have been strengthened, if, as is often the case among children in every state of health, worms had really been encountered.

ARTICLE VI.—*Case of Paralysis occurring in a Child, and attended with Anomalous Symptoms. By* J. MARSHALL PAUL, M.D. *of Philadelphia.*

An anomalous form of disease occurred in a little girl at the age of three years, and continued to affect her in a greater or less degree until her death, which took place unexpectedly four months ago, when in her sixth year, at the time she was recovering from an attack of measles.

It first exhibited itself by a complete loss of power over the muscles of the back and inferior extremities, as she was riding in a carriage with her parents, on their way to the city; and she remained in this condition for at least half an hour, during which time I saw her. She was bled several ounces from the arm; took castor oil to open the bowels as they were costive; had frictions of different kinds applied to the spine and limbs, and in a very short time (say one hour from the period she was seized) she had so far recovered her usual power over the affected parts, as to be able to walk about the room without assistance. This temporary affection returned the following morning, and continued to do so for several successive days. It was now more particularly confined to the right limb, and was relieved by the same remedies, with the exception of the bleeding, which did not appear to be indicated by the pulse. An interval of several weeks then elapsed, during which time the child enjoyed excellent health, participating in various amusements with her sisters, and exhibiting no symptom of disease whatever. At the end of this time, a recurrence of the paroxysms took place, affecting her in a similar manner and for the same length of time as in the first instance, and they then ceased, leaving her in the possession of apparent health. Thus she continued to be attacked at intervals more or less distant, though with great abatement in the violence of the disease, until the period of her death, without exhibiting any marked symptoms of a cerebral affection, if we except a slight twitching of the muscles of the eyes and face of momentary duration, on one or two occasions, and a disposition to sleep, which was generally indulged, soon after the termination of each paroxysm. It is proper to state, that there was evidently a predisposition to epilepsy in this child, accompanied by a scrofulous diathesis; as evinced by her whole appearance, and by great irritability of the nervous system. She was never able to articulate words distinctly, as all of them uttered by her were gutturals, and difficult to be understood by persons not accustomed to her manner of expressing her ideas.

She was of a very costive habit. Her appetite was generally good, and at times voracious. She had been much indulged in every variety of food, and this in large quantities. Her abdomen was mostly hard and distended; and the discharges procured by medicine from her bowels were always, at the periods of an attack, extremely vitiated and offensive.

The course of practice instituted, was a total change in the child's regimen, confining her entirely to a mild vegetable and milk diet, and in moderate quantity. Gentle cathartics were frequently administered with a view to correct the state of the bowels. Frictions to the spine and extremities were employed; also the salt bath; and for a time a discharge was kept up from the back of the neck by means of a perpetual blister. The chief dependence, however, was placed on the laxatives; as the alimentary canal was considered to be the primary seat of the affection, although some of her symptoms might be suspected to be of cerebral origin: and so far as experience went in this case, there was no reason to regret the course pursued; as the attacks diminished both in frequency and force, and the disease appeared almost subdued by these remedies. Indeed, we felt strongly encouraged to indulge the hope of the patient's ultimate recovery; as the affection had become so slight towards the latter period of her life as scarcely to attract attention, or cause a momentary inconvenience to herself.

It is worthy of particular observation, and of great interest to know, under all the circumstances of this case, that the child had always been remarkably exempt from colic and other bowel affections; for it proves that extensive disease, or unnatural alteration of structure, may exist in the intestines without being indicated by any one symptom, or readily suspected by the physician. About the beginning of the present year, she took the measles, had them mildly and bid fair to recover; when on the morning of the day on which the last of the eruption disappeared, she was, according to her mother's account, seized with a fit, which on inquiry did not answer to the description of a convulsion. The child appeared greatly distressed, applied her hands to the stomach, screamed, and immediately became rigid in her limbs and body. By the time the neighbouring physician saw her, it had passed over, and she was as well as usual. Some medicines were directed and he went away. Three or four hours afterwards, the fit returned with greater violence, and left her in a state of stupor and insensibility until her death, which took place about twelve hours afterwards.

An examination was made by Dr J. Rodman Paul and myself, thirty-six hours after death. The brain presented no morbid appearance whatever: it was natural in size and texture, and uncommonly free from that turgescence of bloodvessels which is to be met with in most subjects. No effusion of any kind, either in the ventricles or between the membranes. No deviation from the natural appearance to be observed in the medulla oblongata. Stomach of the usual size, and its mucous coat healthy, except two or three small injected spots near the cardiac orifice. Liver, spleen, pancreas, and kidneys natural. In the small intestines we discovered four distinct intus-susceptions, each to the extent of four or five inches. The 1st was found at the distance of twenty-eight inches from the pylorus; the 2d, fifteen inches from the first; the 3d, about six inches further on; and the 4th occurred eight inches from the 3d—all bearing a striking resemblance to each other. The intus-suscepted parts were much thickened, and the calibre of the tube was considerably diminished. The muscular coat of the intestine was developed in a remarkable degree just at the contracted portions; as if nature had endeavoured to overcome the obstruction by giving it additional power. Every thing indicated that the disease was not of recent origin, but was probably coeval with the first appearance of her singular attacks; as we were struck with the unusual thinness of the parietes of the bowel above each intussusception. The mesentery was studded with enlarged glands of the size of a split pea. No other morbid alteration was observed.

I am perfectly aware that the state of the bowels, as above described, is sometimes attributed to the free use of drastic purgatives, but in this case, there is not sufficient ground for adopting such an explanation, as the medicines employed were mostly of a mild nature, and acted gently without producing pain or inconvenience.

Article VII.—*An Essay on the Affections supposed to result from the Bites of Animals, and known by the appellation of Hydrophobia. By* J. C. Rousseau, M.D. *Member of several learned Societies.*

[Read before the Philadelphia Medical Society, March 14, 1829.]

"*Je n'ai peur de rien plus que de la peur.*"—Rabelais.

It is unquestionably a most gratifying circumstance, at which every philanthropic mind cannot but rejoice, to perceive, in the present era of science, the sway of erroneous opinions and prejudices fast yielding to the influence of strict, fair, and impartial investigation. But the romantic and wonderful, particularly when swelled with fabulous incidents, terrific relations, and descriptions of awful scenes, impart such a stimulus to the human mind, that truth, in its simplicity under natural colours, can scarcely promise to create an adequate excitement: for it is a well known truth, that it is much easier to awe than to persuade; and experience teaches us that fear holds the sceptre over all nature.

Instead of endeavouring to diminish the catalogue of human miseries, which has been and is daily swelled to an alarming degree, every one elbows forward through the crowd of innumerable writers, to throw in his mite, not only to enlarge the collection, but to render it more appalling.

These reflections, I feel convinced, cannot be better applied than to the subject of the present essay; and I propose to give to it that serious attention which its importance merits. But if I am led to deviate from that gravity, which, from the predisposition of every one's mind in matters so unquestionably revered, I presume is anticipated, I hope my disquisition may be taken in its true sense and light, and from the whole, a judgment formed upon the whole.

Than hydrophobia, no other disease, if, perhaps, we except the venereal, has favoured the origin of more fabulous reports, and created more terror in the mind, not only of the vulgar, but of the best informed classes of society, from which I cannot even exclude the faculty; and, yet, without any solid foundation: for I may confidently assert, that there is not one in a thousand that has ever taken the trouble to think seriously upon this subject, and, not unlikely, even a smaller proportion that ever had the opportunity of witnessing the effects resulting from the bites of animals.

The whole of this matter rests, either upon vague reports, preconceived opinions, mistaken notions, or a blind deference to authority.

But after an impartial and unprejudiced inquiry, and a judicious examination of the accounts we have on record, it will be found that they are not only inconsistent, incorrect, and perplexing, but, not unfrequently, shamefully exaggerated; and, in many instances, so visionary, that no reliance can be placed on them. We are, indeed, induced to believe that few of the writers have witnessed with a placid eye the scenes they describe. Moreover, their sanative methods are so versatile and incoherent, their remedies so terrific at times, so insignificant at others, that we might well question if many of them had seen a single case of canine madness.

Nevertheless an inconceivable bigotry of opinion, equal to party spirit obstinacy, pervades all classes, and presents insurmountable obstacles to the admission of the most evident facts, if they appear to militate against long established prejudices, and sanctioned medical creeds.

An impartial inquiry is not only hazardous but scarcely attainable. Regardless of communicating useful information, or affording the balm of consolation, every report is calculated to perpetuate the prolific seed of terror; and it is a lamentable truth, that we are, at this day, as much in the dark as our predecessors respecting the cause and true nature of hydrophobia. Why this name should have been exclusively selected to qualify a specific disease, supposed to result from the bite of a mad dog, is not very obvious; the dread of liquids being a symptom occurring in many diseases, where a morbid excitement of the nervous system is predominant, and attended with constriction of the fauces.

But it is not an easy matter to divest the human mind of prejudices once inculcated and rooted in by time, and affording an inexhaustible source of romancing. In this, however, we can see nothing more surprising than in the popular frenzy to run, not unfrequently, at the peril of life and limb, to see a fellow mortal launched into eternity.

Having, however, seen cases, not resulting from a bite, in which hydrophobia was one of the predominant symptoms; which observation is sufficiently confirmed by the testimony of others; it may not appear presumptuous in me, unbiassed by popular prejudices, *which*, although sanctioned by men of respectable authority, are not of a nature calculated to carry conviction,—to unfurl the standard of scepticism that others have hoisted before me.

Truth cannot be elicited by conjectures; facts are not to be established, still less supported, by vague reports; nor reason and judgment satisfied with good or bad names, contradictory declarations, and incredible stories. Admitting without discrimination, and propagating without examination, have been the sources of all the errors that have brought thousands to a premature end.

Disease is invariably a derangement in the constitution; but various agents being the cause of apparently the same disturbance, and the same cause being productive of different aberrations, the utmost circumspection ought to be used in pronouncing upon the origin of diseases. Sex, temperament, constitution, habits, situation, occupation, seasons, former diseases, perturbation of mind, &c. &c. must, necessarily, vary the symptoms of the same disease, and become the cause of the diversity or identity of the morbid appearances, that have not unfrequently drawn the faculty into error.

That bites, more commonly of dogs, because of their greater number, their particular habits and their dwelling among men, have in numerous instances proved fatal, cannot be denied; but that those accidents have resulted from a disease, inoculated by a specific virus generated in the mouth of the animal, under a particular morbid excitement, is merely a supposition, rather disproved than supported by facts, as we hope to be able to prove as we advance in our inquiry.

Dogs being, in general, possessed of an uncommonly irascible temper, and naturally prone to bite, and some species being extremely ferocious, it is not at all surprising that a general dread of them should be imbibed in infancy, and retained in maturer years; and this circumstance must incalculably aggravate the consequences of a bite, and may be productive of those very accidents that have been attributed to a specific virus.

The fact is daily confirmed by experience, that lacerated wounds are oftener than any other attended with danger; and if we pay particular attention to those resulting from bites, we shall find that, of all the injuries of that kind, they are the worst, from the compound action, producing not only laceration, but contusion. Moreover, if with these peculiarities we take into account the state of perturbation created in weak and prejudiced minds, by unexpected attacks of infuriated dogs, we cannot but hesitate to sanction the idea of a rabid poison secreted in the mouth of the animal under a particular state of disease. Besides, it cannot be questioned, that the saliva and teeth of a dog in perfect health may, from the putrid and filthy substances on which the animal not unfrequently feeds, acquire and harbour a decided virulence, and become the source of the accidents, that have for so long a time disturbed the peace of mankind.

All the well substantiated facts, indeed all the anomalies characterizing the maladies supervening on bites of animals supposed to be in a rabid condition, concur to prove, that the same symptoms have resulted from the bites of animals labouring under no kind of disease, as well as from various injuries, not admitting the possibility of any introduction of virus, being the consequence of the mere mechanical agency of inanimate bodies.

I am fully convinced, and many sound observers will I think join me in the belief, that the terror propagated, from generation to generation, by the popular tales on hydrophobia, has been the cause of more mischief than the pretended rabid poison itself, and that more than a few have become mad from the simple fear of turning mad.

I perfectly well recollect the son of a gentleman with whom I was intimate, who, to the age of twelve and upwards, could not see the approach of a dog without being thrown into a fit; and it was not without much trouble, that, by keeping a dog in the house, his antipathy was at last conquered.

"Will it bite," is a common question with children, when a little dog or any other pet animal is given to them; not that they have been bitten, but because they have been scared with it by their nurses, parents, playmates, &c. Of all the scare-crows resorted to, to intimidate children and force them to obedience, the dog is the most common, and the stories of canine madness always come very *à propos.*

Yet dogs are not sufficient to frighten all children. Some are very mischievous, and like to plague cats. "The cat will scratch you," is then the cry. Still this will not do; children are not afraid of scratches. With a little more trouble, and out of necessity, the disease of madness has been stamped upon cats; and all the old, and many new, wonderful stories have been heaped together to swell the collection. But cats will not generally bite; then "madness can be, and must be, and has been communicated by scratches." This is hard to believe, and, therefore, it must be proven. "Cats lick their paws," as every one knows; and as it is the saliva of dogs that transmits the rabid poison, it must proceed from the like source in cats. Accordingly, "by licking their paws the saliva is deposited on them;" *ergo*, "scratches can inoculate madness!"

The above reasoning may answer tolerably well for children; but we cannot help blushing to find such stuff recorded by men in their proper senses. Yet, as such reasoning may be specious for some, who, like the *bonus Homerus*, *aliquando dormitant*, we hope to be excused if we take some notice of it.

Animals in general, and particularly cats, that are remarkable for an uncommon degree of cleanliness, are not very attentive to this characteristic quality, while suffering from disease. On the contrary, their filthiness is the first apparent symptom of their diseased state; and this arises from the circumstance, that they do not lick their paws. For it is not to be supposed that the animals adopt this employment as a mere pastime; on the contrary, it is for the sole purpose of removing the dirt that they have, *with their paws*, brushed from their heads.

Since I have been led to speak of the ridicule that ought to be cast on the popular tales, related at random concerning canine madness, (and I am fully persuaded that too much cannot be done to doom them to a state of oblivion), I beg to be indulged in prosecuting this task a little further, not for the sole pleasure of exposing error, but with the hope of fostering the spirit of investigation which I imbibed at an early period of my medical career.

Palmarius, an ancient writer, seriously informs us, that the straw, on which some mad swine lay, communicated the same disease; and, *risum teneatis*, that a man who had become mad from the bite of a rabid dog, when on the point of death, kissed his children, who, in a few days, were all seized with rabies, and died of it!!

So much for plain truth—then comes the romantic; such as men tearing and eating their own flesh; biting like dogs; or scratching like cats, when the disease proceeded from the last. Others, quite composed, warn their friends not to come near, for fear they should bite them, and view, composedly, their appalling situation!

We shall now cite from writers how long a time will be requisite to establish this incongruity of symptoms.

From **Lomnius** we learn, that seven years may elapse before the invasion of the disease.

Morgagni relates a case, in which twenty years elapsed between the bite and the appearance of the disease.

Boerhaave mentions a case of the same description.

I have read of a case spun out to forty years.

Other writers, however, fix the invasion of the disease at a very short period after the bite.

Dr **Gray** records a case in the West Indies, in which death happened on the same day as the bite. We might even go further, but, for the sake of common sense, must refrain.

After all the uproar created by this terrific malady, it might be supposed that no doubt could be entertained as to its existence; but, alas, of all the symptoms that have been recorded, not a single one can be called pathognomonic. Neither does any identity of symptoms characterize the disease in men and dogs. We have already repeated the idle stories transmitted to us by ancient writers upon canine madness, as communicated to the human constitution; for this disease has never been supposed to be spontaneously generated in man.

We shall now narrate the general symptoms observed in dogs: they look dull and stupid.

They pant, keep their mouths open, hang out their tongue, and discharge abundance of saliva. They refuse food. They are thirsty, and do not drink.

They look dirty. Their ears and tails hang down. Some say they move slowly, others that they run faster than ordinary, and in an irregular manner.

It is nevertheless an accredited popular opinion in some places, that they always go straight forward; and if you get out of their way, they will not hurt you; yet various writers assert that they snap at and bite every thing they meet with.

We find nothing but contradictions at every step of our inquiry, as often as the authors have not copied from one another.

The tail between the legs, seems, however, to be the most prominent symptom, and the most noticed in general. It is that, also, which spreads terror and dismay throughout all classes of people; although it be quite insignificant, and nothing more than an indication of fear and timidity, observable in all dogs passing through a strange neighbourhood.

It is, indeed, surprising, that we should have, to this day, been satisfied with such contemptible data; and still more astonishing, that no inquiry has been proposed or encouraged, by premiums or otherwise, to ascertain something respecting such a direful malady, the existence of which must rapidly come to be considered as extremely doubtful, if not entirely imaginary.

What is rabies in animals? What is it in men?

Is it the result of a specific virus of canine origin? Can it be productive of a particular disease, in other animals and in men, by the simple application of the saliva to some living part?

Does the poison exclusively reside in the saliva*? Is inoculation by means of a wounded part absolutely indispensable†?

What is the nature of the wound produced by the bite? Does it secrete a poison of the same nature as that secreted by the salivary glands during the disease?

Is it a compound effect of the laceration of the teeth and the particular quality of the saliva?

May not the saliva of dogs, under some peculiar circumstances, become poisonous without the animal being in a state of disease?

Why are the effects of the bite of a mad dog more promptly shown on animals than on men, as the reports assert them to be?

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* Pliny recommends the saliva of a mad dog for the cure and prevention of hydrophobia.

† Dr Vaughan tried to inoculate it without success.

Why is not the dread of water a characteristic symptom of rabies in dogs as well as in men* ?

Until these queries have been satisfactorily answered, we cannot believe that hydrophobia is the result of a specific virus. And if we were to support this opinion, how could we reconcile our belief with a number of well attested facts, proving that this symptom scarcely happens once in thirty cases, where the bite has been inflicted by the same dog.

Hydrophobia, I am persuaded, is an extremely rare disease; and when its occurrence has not been preceded by the bite of a dog, it is met with very little apprehension.

I have experienced it myself, after my recovery from a long illness, that had thrown me into such a state of morbid sensibility, that, not only water, but any thing else that could produce a tremulous motion on my eyes, or a shrill sudden sound on my ears, excited the most horrible sensations.

I have witnessed it in many cases of cynanche, and in diseases of infants of various kinds.

The disease was strongly marked in a case of destruction of the epiglottis that fell under my care some years ago; until I contrived to introduce liquids into the stomach, by means of a piece of intestine of a chicken, swallowed at one end, while the other was kept fastened to one of the teeth of the patient, who was delighted to receive, as often as he was desirous, by means of the canula of an injection pipe, the liquids that were forced through it.

It is not, I am now convinced, a terror resulting from the sight of water or of other liquids that harasses the sufferers. It is, as many have confessed, the dread of having the liquids forced upon them, when they feel certain from former trials of their inability to swallow, and call to mind the sufferings they have undergone by their exertions to accomplish an act that they were rather desirous than reluctant to perform.

This inability to swallow liquids generally proceeds from a constriction of the fauces; or from a too exalted state of irritability in the organs of deglutition; or from a rigidity of the epiglottis preventing the shutting of the trachea, in consequence of which the passage of liquids into that tube, on their way to the œsophagus, occurs.

I have ascertained these facts by introducing my forefinger into the fauces of the patient; and Dr William Shaw, an experienced and respectable physician of this city, has informed me of a case that fell under his care, in which the rigidity of the epiglottis was so great, that he could not press it down with his finger. The patient, who died with all the terror that the presence of liquids could excite in the mind in hydrophobia, repeatedly assured him, that his fear was excited solely by the recollection of the agonizing fits of coughing, he had been thrown into by his first attempt to swallow some water; and that he would rather give up his life, than run the risk of being again thrown into the same predicament.

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* A number of writers on this disease, are of the opinion that it is not.

If the popular terror, generally entertained concerning hydrophobia, could only be once mitigated, and all the cases observed with coolness and an unprepossessed mind; we cannot doubt that they could all be traced to natural accidents and ordinary causes. But those are extremely few who are so zealous as to be willing to embrace the few opportunities which are offered, to forward this end.

Persuaded, for my own part, that the seed of truth is as easily sown as that of error, I have not neglected the undertaking; though, conscious from experience, that, in such a work, much of the labour is generally lost. Nevertheless, it is consoling to reflect that the value of the harvest may compensate for its scarcity.

I shall relate a few cases of those that I have closely observed, neglecting nothing, and sparing no pains, necessary to a complete history of them. They will, I expect, corroborate the opinions that I have supported in this inquiry.

The following must be fresh in the memory of several of our members; and the noise it made in the newspapers of this country, is hardly yet entirely subsided.

I. About the latter end of June 1819, three respectable physicians of this city were attending a lady of Southwark, and, after her death, reported her case as *hydrophobia.*

On the 3d of July following, I was called to visit a young lady, eldest daughter of Joseph Barry, captain of the packet ship Telegraph, of this port, also residing in Southwark. She had been severely bitten, on the leg, by the same dog that had caused the death of Miss F. above alluded to.

One of the three physicians who had attended Miss F. during her illness, had, I was informed by Mrs Barry, been consulted on the case of her daughter, and advised the excision of the wounded part. But as I had been the physician of the family for a number of years, she thought proper to postpone the operation, until she could have my opinion.

The popular excitement was high and general, particularly in the neighbourhood; and the reports were so various that one could not be too cautious in accrediting them.

I thought it advisable, having already learned from the reports of a number of persons I met on my way, not to act with too much precipitancy, and went out to collect more information.

I discovered that a little boy residing in the same family with Miss F. who had also been bitten by the same dog, was exhibiting no sign of illness, and that his wound was healing kindly.

I learned from him, as well as from the many idle stories of others, that the culprit was a little slut belonging to Mr Kane, a tobacconist, residing at the N. E. corner of Second and Christian streets. I went immediately to see him, and was informed, that he and his daughter had likewise been bitten by the little creature, of which bites they did not entertain the least apprehension; remarking, with a smile, that she was excusable; for, added he, "she was in a situation that too frequently turns men and women raving mad, and, therefore, I wished her no harm. But the panic was so great among the neighbours, as she had bitten many more men and dogs, that to please them, my daughter (neither of us having the heart to kill the poor animal) carried her, in her apron, to some man, who took her with one hand, and chopped off her head with the other."

After this, I thought all safe enough in sparing the flesh of the young girl; and for the purpose of calming the public, I immediately published a fair exposition of the facts in Relf's gazette.

Ten years nearly have elapsed since this alarming occurrence; but neither men nor animals that had been bitten by that pretended mad dog have yet shown any sign of derangement.

It is, however, not amiss to show, that obstinacy can always find some rampart against the attacks of truth. It will, I fear, hardly be believed that on my relating the above and other facts, I was told that by killing the dog, the disease is prevented in those that have been bitten! For the same reason, I presume, that, formerly, to cure a wound, the sword, that had inflicted it, was anointed, dressed and nursed!

II. A male child, about five years of age, was seized with melancholy, attended with a drooping countenance, loss of appetite, glaring eyes, and tremor of the limbs. Early in the morning of the next day he became very restless, and in a short time so much agitated, that he could not be kept in bed. He refused medicines and drinks, and slabbered considerably, talking incoherently and wildly about cats.

The cat of the house was looked for, but could not be found. Information was received from the children of the family, that the animal had run away in a fit.

Madness was immediately the cry. Two of the most accredited physicians were sent for, who pronounced the disease an evident case of *hydrophobia*.

I was a friend of the family, and, happening to pay a visit at that time, was asked to examine the child. He was in a state of extreme agitation, with all the symptoms I have already related. A sweat was running from his face and breast; a violent spasm was remarkable in the muscles of his neck and throat. He protruded his tongue as if craving something, and exhibited all the symptoms of the greatest agony. I had not yet retired, when the attending physicians returned. They tried to make him swallow some drops; but he raised his hands against the cup, with a roaring noise in his throat, and, apparently, with great anger and terror.

Unable to find any mark of a bite or scratch on the child, I took the liberty to observe, that, in the absence of any lesion, the infection from a rabid virus appeared, at least, doubtful. But the physicians were both of a contrary opinion, alleging that rabies could be contracted in various ways; that numerous cases were on record, by which it was satisfactorily proved, that the mere breath of a rabid animal could communicate the disease. As they were both senior to myself by many years, I bowed respectfully; but before I left the room I asked the liberty of putting my finger into the mouth of the child, to ascertain the state of the fauces, which I found extremely contracted. This was assented to by the gentlemen, who, I dare say, viewed this act as an indication of rashness. Death took place the following day, or soon after, for I now relate from memory. I was informed of it, and proposed an examination of the body, which was assented to.

A quantity of flowers of the belladonna were found in the stomach, which, as well as the œsophagus and fauces, was in a state of great turgescence and inflammation. So much for rabies in this case.

III. In the year 1805, a seafaring man, apparently in great distress, called on me for relief. He had, some years previously, been bitten by a dog, and exhibited the mark of the wound on his leg. His sensations were, he said, such as he never felt before. Every thing made him peevish and ill-natured: he could not content himself any where, nor could he rest, eat, or drink. His ship-mates were constantly teasing him about his turning mad; telling him that he would be smothered between two mattrasses or shot, and plaguing him with the usual stories connected with such cases.

It was not long before he was really taken sick, and I was requested to visit him.

I found him labouring under a most violent attack of tetanus: his looks were so wild that no one dared to come near him. No information could I obtain from him, and no one could be persuaded to take care of him; so great was the panic created by the superstitious stories related with reference to his case.

Having after much trouble convinced some of the by-standers that he could not bite on account of his teeth being violently clenched together, they assisted me in applying large blisters upon all the parts we could get access to. Then, taking advantage of a vacancy between his teeth, I endeavoured to throw in some liquids; but he returned them with violence and anger. Enemas were next resorted to.

No doubt was entertained by those who visited him that his case was hydrophobia from the bite he had received some years before.

On the third day of my attendance, the large doses of opium suspended in water, which he had taken by injection, had already relaxed the system. I was then informed by one of his attendants that a large swelling, attended with great redness, was observable on his right wrist, and that they had learned from one of his visiters, that, six months before, he had a very sore hand. I examined the part and found that some foreign body could be felt in the wrist, between the tendons. The former wound being completely cicatrized, I laid it open, and found a splinter of wood more than two inches in length, and three-eighths of an inch thick. The tetanic symptoms continued however for some time; but the continuance of large doses of opium, amounting sometimes to the quantity of thirty-six grains in twenty-four hours, produced at last a relaxation.

Had death, in this instance, taken place without the discovery of the cause of the disease, it would have been considered as an indubitable case of rabies.

Such was the dread left on the mind of this patient, that, on my meeting him some years after in the street, and speaking of his past illness, he was seized with a general tremor, and angrily declared that he believed that if I spoke again of his disease, he would be thrown again into a fit of locked jaw!

IV. William Wildey, upwards of eight years ago, had been bitten on the middle finger of the left hand by a dog that, after having bitten several dogs in the country about Bristol, had been pursued and killed as a mad dog. All his friends advised him to have his finger amputated, and he applied to me to perform the operation. All my representations to the contrary produced very little effect to make him alter his determination. Having, however, ascertained that he was not willing to trust any one else to perform the operation, I persuaded him to wait. Fear had already created symptoms of an impending hydrophobia. He felt a constriction of the fauces, and experienced some difficulty in swallowing his saliva. I persuaded him, at last, that his indisposition was owing to fatigue and uneasiness of mind, dressed his finger, and supplied him with some opiates, and thus saved him from madness and the loss of his limb.

It is not to be doubted that the cure would have been more ostentatious and more admired, if I had unfeelingly lopped off the finger of the poor fellow.

Cases are not wanting to prove that an excited imagination without any other cause, has, in instances, developed all the symptoms of hydrophobia. One of this kind may be found in the Journal de Medecine of Paris, 1814. Kindness, attention, and proper consolation restored the patient, a young student of medicine, to his reason and to health. Another case is to be found in the Annales Littéraires Med, Etr. 1811. The patient died with all the symptoms of canine madness, from the bite of a cat that was not even suspected of being rabid. PINEL relates a case of death, with all the symptoms of the most evident hydrophobia, from the bite of a horse, that, neither at that time nor at any subsequent period, showed any sign of disease.

Hydrophobia is not uncommon in hysteria. The abuse of mercury has, not unfrequently, been the cause of it.

I have not, I hope, led any one to suppose that hydrophobia cannot result from the bite of dogs. My arguments are simply intended to combat the erroneous idea of a rabid virus, and to allay the terror generally entertained of mad dogs. For, if I do not believe the accidents that have been witnessed to be the result of a specific venom, I have powerful reasons to acknowledge, that the bite of dogs, either sick or well, is not unfrequently attended with extreme danger, and ought to be avoided with the utmost caution.

What I have occasion to wonder at, is, that human genius, as if it were not satisfied with all the evils and calamities thrown in our way and daily threatening our existence, should have fancied and contrived additional imaginary ones. Partiality for mysterious causes and effects is one of the most prominent characteristics of the human mind.

The rabid poison is not the sole imaginary bane of human invention; and no great effort of mind is requisite to understand why it, and syphilis, and witches, and vampires, and loup-garons, and syrens, and ghosts, &c. &c. have, so long, been reverently accredited. Every one has some business to do. *Tot mala, tot antidota.*

I have known people, and I have given it as my opinion, to entertain no apprehension from eating the flesh of a pig or a cow that had been bitten by a *soi-disant* mad dog. Experience has repeatedly confirmed the correctness of this opinion.

Dogs are undoubtedly liable to disease; and maladies are sometimes epidemical among them, as well as among cats. But, have their diseases been studied, and do we possess sufficient data to pronounce upon their particular character? As soon as a dog shows some sign of indisposition, with a morose and dejected countenance, instead of looking for the cause of his disease, he is kicked and turned out. Does he wander out of his habitual places, and, through fear or timidity, walk with a drooping tail, he is taken for a mad dog; and, if he happen to be attacked by other dogs, and attempt to bite in his own defence, ten chances to one if he is not put to death without mercy or further inquiry.

What I have seen of dogs under a state of disease, inclines me to think, that they, then, rather lose their natural temper for watchfulness and ferocity. They lie down and secrete themselves if they can, and, unless it be in their own defence, seldom bite; and if they resort to that extremity, their bites do not appear to be, then, more dangerous than at any other time.

During the panic excited in this city by the report of the death of Miss F. of Southwark, I had, in my family, a sick dog that exhibited more of the symptoms of madness than any I had seen killed for this supposed malady. He was a favourite with all my children: they nursed him, and through the care and attention paid to the animal, he recovered, and is still alive*.

That a sick dog, or any other animal, should show an aversion for food and drink, is a circumstance consonant with the laws of the animal economy, and cannot be characteristic of any particular disease.

It is not without extreme pleasure we observe, that the reports of cases of hydrophobia from the bites of animals are neither so numerous nor so fabulous as formerly. This cannot, we may reasonably suppose, be attributable to any other cause than to a more extensive dissemination of knowledge; creating, in our population, a greater degree of fortitude, and enabling every one to compare and judge with less prejudice.

We confidently anticipate the time, when, by the exertions and investigations of unprejudiced men, all the fabulous stories respecting canine madness will either be entirely forgotten, or treated with derision and contempt, and the diseases resulting from bites viewed and treated, like all the tetanic affections from general causes; attributing the variety and intensity of their symptoms, to the diversity in constitution and habits of body, the higher degree of irritability of the subject, the greater degree of sensibility of the wounded parts, the extent of the injury,—in a few words, to the multiplicity of incidents resulting from circumstances, and the influence of unaccountable and unknown causes, to which organized bodies are unavoidably exposed.

Having endeavoured to place hydrophobia in its proper light, I shall now devote some time to the examination of the various modes of prevention and cure, proposed and put in practice at different periods, and those now recommended by prudence.

Whether hydrophobia be the result of a specific virus or not, it is, under every shape, one of the most formidable diseases that we have to encounter; and the dread of it being one of its prominent features, our attention should be directed not only to the disease, but to every thing else that may, from prejudice or otherwise, have a deleterious tendency. This is, certainly, not the easiest part of the task.

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* Dr William Shaw, spoken of before, has seen many cases of the kind, and the bites have never proved more dangerous than under other circumstances.

As the belief has been, and is yet unshaken, that this disease is of canine origin, quackery, favoured by popular opinion, has spared no pains to circulate a vast number of nostrums for preventing dogs from being affected by this disease, under the persuasion, that, if dogs were safe, men had nothing to fear.

The application to the forehead, of a red hot iron, of different forms, according to the superstitious notions of different countries, has been, and is yet, thought of indubitable efficacy; chiefly among the peasantry and the lower classes. Cutting the tip end of the tail, and pulling something out of it, some have great faith in, as well as in amulets tied round the neck.

PLINY recommends hen's dung; JAMES, turbith mineral; others, antimony. Indeed any thing may be recommended; for, as I have remarked, the uncertainty of the existence of this disease, may support the credit of the most insignificant nostrums, on account of the impossibility of detecting the imposition.

The worming of dogs, or extracting something from under the tongue, nobody knows what, although recommended at the time of PLINY, is supposed by some to be a modern discovery. The rationale of this operation has never been given, nor does it appear very evident.

Muzzling the dogs appears, in our city, as a dernier resort for insuring the safety, or calming the apprehensions of the community. A great deal is thought of it, particularly by those, who, from various motives, justly deprecated the barbarous law for killing our dogs.

Against this expedient, at least as good for the people and better for the animals, I should be reluctant to raise any objection, as long as our dogs are not better muzzled than we see them at present. The principal object being to quiet unfounded fears, it does not matter how this is obtained; if the means are humane, and not shocking to our feelings.

But if the muzzle were put on tight enough to prevent dogs from biting, it would likewise prevent them from drinking, and obstruct the passage of the saliva, which, when the creatures are heated, runs abundantly from their mouths.

In times of epidemics, prudence requires that dogs should be confined. Their food and drink ought to be carefully regulated and changed; and when they are kept in kennels, the utmost degree of cleanliness is to be observed; fumigation being used, as well as white washing, and scrubbing with lime-water. Their litter should be made with dry and, if possible, nearly scorched straw: for vegetable putrefaction is, more than any other, the source of malignant diseases.

They ought to be often led through running water, and kept in it as long as possible.

Superstition has gone so far as to make some believe, that they may be secured against the bite of mad dogs, by wearing certain amulets. Finger rings are publicly sold in the streets of the cities of Europe, under the name of *Bague de St Hubert;* with the assurance that, as long as they are worn, no danger is to be apprehended from them. It may be as good a talisman as the horse shoe, the snake stones, quarantines, &c. &c.: they all keep the human mind in a state of placid tranquillity, do no harm, and give employment to many.

I cannot take leave of this subject, without taking a cursory view of the therapeutic means now in our possession.

We have advanced but little further in our curative than in our preventive means. From our predecessors, except the excision and cauterisation of the wounded parts, we derive but little knowledge for the cure of hydrophobia. Their remedial means were, as we have already said, either insignificant or terrific.

The practice of plunging and keeping the patient under water, until he was exhausted and nearly drowned, was followed for a long time; but few, if any, received real benefit from it.

Opinions are very much divided concerning the course to be pursued in the cure of tetanic diseases, of which we may consider hydrophobia as merely one of the symptoms, marking an exalted state of the affection.

It is extremely difficult to trace a general route; for, in some cases, and indeed not very unfrequently, the phases of disease succeed one another so rapidly, that the remedy indicated at one period, can scarcely be applied at a more advanced stage. Hence the repeated failures of the various remedies boasted of.

If it were possible to see the patient on the invasion of the disease, and practicable to be constantly at his bedside, our success would undoubtedly be greater.

The remedies now held as the most energetic, and which are highly recommended as having been most successful, are mercury and antispasmodics. I have always found opium extremely beneficial, particularly when the administration of it can be safely pushed to large doses*. The promptitude of its action upon the animal system, entitles it to the highest degree of confidence.

Mercury presents resources not to be found in other remedies, from the variety of forms, and the diversity of ways in which it can be administered. Its introduction has been owing chiefly, I presume, to the gratuitous supposition of a rabid poison introduced into the system; under the expectation that, since it had proved an antidote against the venereal poison, it might, by its power of acting upon the salivary glands, be still more efficacious in hydrophobia (whose cause was supposed to have originated in the mouth of the dog), and by a profuse salivation expel the morbid poison. Thus was one supposition supported by another, and reasoning founded on an analogy that does not exist.

Yet, as it is not absolutely necessary that a remedy should possess a specific power to prove beneficial, no objection can be found to combining mercury with opium; especially when we know, that they have been repeatedly administered together to the great relief of the patient.

The asthenic practice has never been crowned with great success, nor does it seem calculated to promise much good. If it were possible to foresee the intensity of the symptoms before they are established, depletion might, perhaps, guard against them; but too many circumstances forbid such an expectation, and when we are called to see a patient, it is mostly too late to resort to it. Besides, is it possible to reduce the irritability, the sine qua non of life, without sapping the very foundation of its existence, and running the risk of destroying the patient, when our object is to get rid of the disease?

Even admitting the disease to be caused by the presence of a rabid poison, the asthenic method would be found no less hopeless. When poisons have once begun to disorganize the animal frame, the poisonous matter is not the sole object calling for our attention: the means of enabling the organization either to eliminate, or to resist the shock produced by the venom, have, I presume, a much stronger claim to attention.

It is so difficult, and the instances are so rare in which we may be enabled to expel or neutralize the poison, that the only resource left to us, is to support and assist the natural powers to combat the enemy. This, I am confident, is the desirable object; to be obtained, rather by increasing than by reducing the *vis naturæ*. Yet as this cannot be effected by abrupt measures, our assistance ought, in all cases, to be judiciously regulated, in consonance with the natural energy of the individual and the urgency of the case. *Hic labor, hoc opus*. Hence good or bad management, in every undertaking, may acquire fame for, or sink into insignificance and oblivion, the same means.

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* I have given it, with success, to the extent of thirty-six grains a day; and Dr W. SHAW assures me, that he has gone as far as forty-eight grains, daily, for several days. Monstrous doses are on record.

Injections into the veins have lately been the subject of experiments, with no better result that I know of, than the exchanging of one disturbance for another. But few medicaments can, with safety, be introduced into the bloodvessels, and the salutary effects of such a practice are at least doubtful. If it be intended to throw in the medicines and to have them carried, unchanged, into the general circulation, this route is but little better than the natural one; for if the drugs, introduced into the stomach, undergo some change, before they are offered to the acceptance of the lacteals, they, likewise, must suffer a considerable alteration in the lungs, to procure their admittance into the general circulation.

If the intention be to reach at once, and annihilate the morbid poison, the shorter route is undoubtedly through the arteries, where the specific could, more likely, be conveyed without alteration. Such an idea might please and satisfy many, who do not extend their views any further; but, to say the least of it, its practicability is extremely doubtful, and the benefits to be expected from the operation still more questionable.

The *modus operandi* of vast numbers of venomous substances remains yet in the dark; as seldom any vestige of them can be discovered, except by their ravages. Until we have advanced further in this knowledge, we are left to experiment with great uncertainty.

It is not, however, pretended, that judgment and observation cannot dispel the darkness in which we are often left to move. Remedies known to conceal no deleterious influence, may always be tried with safety.

Much of the success expected from the application of remedies, depends upon their timely administration; the knowledge and management of the proper quantities that can be borne by different individuals; and the continuance requisite to obtain the proper effect. For, it is evidently known, that when the nervous system has been once thrown into a state of disturbance, it becomes extremely difficult to recal it back to its healthy standard, even after the removal of the exciting cause.

Such are my views of this important subject. They are not the result of a few hours' thoughts, but have been suggested by many years of reflexion, and confirmed by repeated, close, and faithful observation.

In this investigation, I have not been influenced by any other motive than that of promoting useful inquiry; to efface, if possible, erroneous impressions, and quiet the unfounded fears respecting canine madness, on the appearance of the slightest symptoms of hydrophobia.

By bringing the human mind to reflect more coolly upon the diseases that have been stamped with terrific names, it will soon be found that they, like others, proceed from the innumerable causes that bring diseases upon the whole creation. Free from terror, our patients will view their situation with more firmness; and, confident in our cares, will expect with resignation the benefit of those means, which experience has taught us to rely on with most confidence.

I may not, in all respects, agree with every one; but I rejoice to find myself supported by a number of medical men, entitled, from their talents and unbiassed minds, to the greatest respect and confidence.

ARTICLE VIII.—*Case of Instrumental Labour, attended by Circumstances of Peculiar Difficulty, in which Embryotomy was performed. By* HENRY NEILL, M.D. *of Philadelphia.*

Ann Fitz-Patrick, aged 26 years, had been delivered of two children, by perforating the head and evacuating its contents. After she was delivered of the second child, she was particularly informed of the impossibility of her having a living child at the full period; and earnestly requested to inform her physician of her pregnancy, should it take place, that means might be adopted to procure delivery before the full period. She conveyed this information, but objected to having any means employed to effect premature labour.

On Thursday, the 15th of January 1829, I was sent for early in the morning to attend her in labour; her full time having arrived. On examination, finding the os uteri not dilated, I directed her to be bled, and a dose of laudanum administered. I saw her again in the afternoon; but as very little alteration had taken place, I could not discover the presentation and the anodyne was repeated. The next day, Friday, the os uteri was somewhat dilated; but no satisfactory knowledge could be obtained as to the presentation. On Saturday, I called in consultation Drs JAMES and HEWSON. The dilatation had now taken place sufficiently to enable us to ascertain that it was not a head presentation, but of some soft part. This circumstance was considered greatly to increase the difficulty of delivery; as I could not well imagine how the head could be reached, so as to act on it with the perforator. Her pulse continued very good, and it was concluded to leave her again for another night under the influence of opium. The next day, Sunday, at 12 o'clock, the os uteri having fully dilated, it was judged that it was a breach presentation; and the size of the pelvis was calculated to be about two inches and three quarters from pubis to sacrum. It was now concluded that I should attempt to bring down the feet. On exploring the pelvis, I found the contraction so great on the right side, that I could only introduce my fingers; but by pressing with considerable force up the left side, my left hand passed with difficulty through the superior strait; and by another effort, I grasped one of the feet, but found I could not retract the hand, when closed. After resting a little, I fixed the foot between my fingers, and gradually drew it below the contraction. I then paused, and after a short time, grasping the ancle, drew it through the os externum. This being secured by ligature, I again, after a short interval, introduced my hand, and succeeded in bringing down the other foot. The feet being both brought down, it was concluded to leave her for a few hours.

At 3 o'clock, P.M. the consultation again met, and found her much exhausted, and her pulse very feeble. It was now very evident that she must be delivered very quickly or not at all whilst living. The body of the child occupied the vagina, and, before I made the trial, I did not suppose I could introduce instruments so as to act on the child's head; but contrary to my expectation, I was still able to pass my hand along the sacrum through the upper strait, and got my finger into the child's mouth. I then introduced the blunt hook and fixed it in that part: this being firmly held by Dr Rodman Paul, prevented the head from moving. I then placed my forefinger behind the ear, and cautiously introduced the perforator, pressing it close to the palm of my hand and along the finger, until it reached the head, which I perforated. The perforator being withdrawn, I introduced the crotchet and fixed it at the base of the skull. Having the head thus secured by the blunt hook and crotchet, I withdrew my hand. Gentle extracting force was now applied: the head was soon evacuated of part of its contents and passed through the upper strait, and the child was immediately delivered.

In the delivery of the placenta, there was not much less difficulty, and perhaps greater distress to the mother. It adhered throughout the whole extent of its surface, and could not be brought away but by introducing the hand and separating the adhesions by the fingers. The uterus then contracted and prevented any unusual hemorrhage. But so great was her prostration, that I was apprehensive she would live but a few hours. Another engagement requiring my attention, I left her under the care of Dr Paul, to whose unremitting assiduities through the night, the preservation of her life may be justly ascribed.

The patient remained in a very low and critical situation for several days, and then gradually recovered. In about a month she was able to walk out and go to market; but an extensive slough has taken place from the urethra and bladder, which I fear will render her very uncomfortable for the remainder of her life.

Article IX.—*Account of a Case in which Portions of Three Dorsal Vertebræ were removed for the relief of Paralysis from Fracture, with partial success. In extracts from a letter to Dr* B. H. Coates. *By* Alban G. Smith, M.D. *of Danville, Kentucky.*

About two years since, I was called a distance of about twelve miles, to a place called Pleasant Hill, the residence of a community of the people commonly called Shakers, to see a young gentleman, a member of the society, who had fallen from a horse, and had become paralysed in all the extremities with the exception of the muscles above the elbow joint. Upon examining the spinous processes of the vertebræ, I found that one of them was thrown to the right side, to the distance of about a quarter of an inch. Concluding that the whole of the vertebra, body and all, was dislocated, I told him that, in all probability, the case would soon terminate fatally; and merely directed some cups to be applied to the parts adjacent, with low diet, and some gentle cathartics. Since then I heard but little of the case, except that he was still alive, until, a few weeks ago, Dr Thomas, the physician of the society, and his brother came to see me, at the earnest request of the patient, stating his importunities, that if I thought there was a possible chance of relief by any process, I would attempt it; as death was far preferable to his present situation. They informed me, at the same time, that Dr Dudley had been called to see the case, had made an incision down to the bone, and had given it as his opinion, that the body of the bone was not dislocated, but that one side of the base of the spinous process was broken and pressed in on the spinal marrow. Having implicit confidence in an opinion emanating from such a justly distinguished surgeon, I told them that I would come down, and if upon examination of the case, the state of his general health appeared to admit of any probability of its success, I would attempt to remove the pressure. Accordingly, in a few days, I went down; and, after I had represented to him the few chances of success, the difficulties of removing a part so tied down without fatal injury to the spinal marrow, and also the probability of the injury sustained by the spinal marrow itself being so extensive that the powers of nature might not be sufficient to resuscitate it, he replied that, if there was one chance in a thousand of its being of any kind of advantage to him, he wanted the attempt to be made. After sending for my friend, the accurate anatomist, Dr H. Miller, who concurred with me as to the propriety of the operation, I proceeded. I made an incision, about five or six inches in length, along the spinal ridge, and then two deep incisions, transversely to, and at each extremity of the former, and three inches and a quarter in length, all down to the bone. I then dissected all the muscles and ligaments as far as the heads of the transverse processes, and scraped the bone clean. The situation of the parts was found as Dr Dudley had described them; the fragments being pressed to one side, but so completely united, and so smooth on the upper surface that the line of separation was not very well marked. I next took a small Hey's saw, and made an incision on both sides, as near the base of the transverse processes as I could, as deep as I could with safety to the spinal marrow and the nerves going off at the sides, and long enough to cut through the bone above, about half way, which was the third dorsal vertebra. I then sawed off the end of the transverse process of the second, and into the transverse process of the third, about half its base. Then, taking a very strong tooth forceps, with its ends turned on one side, and getting a claw in each incision made by the saw, I was enabled to break up the external plate, and part of the internal; so that I could now, with a small strong pair of pliers or forceps, break, by a small piece at a time, the whole of the bone that I had cut round with the saw. Here the anatomist will see the difficulties with which I had to contend; as the parts are so firmly and securely tied down with ligaments. Thus it will be seen that I took out a part of the spinous processes of two vertebræ, half of the third, and the whole of the fourth; the fourth being the bone which seemed to be the most depressed. I now brought the parts together, putting a tent at the bottom; and put him to bed. He had a chill, succeeded by a fever, and some bilious symptoms, which were carried off by a dose of calomel.

I saw him in a week afterwards. The ulcers in his gluteal muscles, which were produced by lying on his back, were healing up; and he had some additional sensation in his hands. Since then I have not seen him; but I entertain considerable hopes.

I wrote the above several weeks ago: I have since received two letters from his attending physician, and have sent my student down; by all which means I am informed that sensation is returning as rapidly as he can bear it. The pain of returning feeling is so great that he complains very much. It is something like the sensation experienced when " one's leg is asleep," as it is vulgarly expressed. His general health is good; and I have but little doubt of his being soon entirely restored to the use of his muscles. Should I ever be called to a case of the kind again, I would advise an immediate operation.

Should you think this case worthy of insertion in your valuable Journal, I have no objection; it being a new operation, so far as I have seen: but, as my opportunities for hearing novelties have been limited for some years past, there may have been other instances similar to it.

In a subsequent letter to Mr EDWARD B. GARRIGUES, of this city, dated May 7, 1829, Dr SMITH alludes to this case, nearly as follows: "feeling has now got down into his thighs: you never saw a creature so overjoyed in your life."

We have addressed Dr S. by letter in relation to the above very curious case; and hope soon to be able to add further particulars. We prefer, however, laying the materials in our hands immediately before the public, to causing delay for the mere purpose of amplification.—ED.

Analytical Reviews.

ARTICLE X.—*Traité de la Moelle Epinière et de ses Maladies. Par* C. P. OLLIVIER, D.M. *d'Angers.*

A Treatise on the Spinal Marrow, and its Diseases. By C. P. OLLIVIER, M.D. *of Angers. Paris,* 1827. *2d edition. 2 Volumes. Pp.* 843.

PART I.

The work opens with a description of the spinal marrow. Conceiving that its structure in the adult will be better understood by the history of its gradual development from the first rudiments in the embryo, our author commences with this part of the subject. The soft and delicate texture of the human embryo during the early periods of its formation, together with the rapidity of the changes, constitute so many difficulties in the inquiry. From the labours of TIEDEMANN, the WENZELS, DELLENGER, CARUS, J. J. MECKEL, and DESMOULINS, very important information has been derived; and to these writers he pays a just tribute of praise.

It is not before the end of the third or fourth week from conception, that the cavities of the head and spinal canal are observed to contain a fluid of a light gray colour. About the fourth or fifth week, the medulla oblongata can be distinctly seen, possessing twice the size of the spinal marrow; the latter presenting a slight curve occasioned by the inclination of the head upon the chest. At this period the spinal marrow is composed of two small white cords, whose filaments are seen to be interlaced, particularly where the curve is directed forwards. This can be traced only in the filaments proceeding from the corpora pyramidalia, though extending to the cauda equina.

About the fifth week a slight groove is formed by the apposition of the two cords, which, at the seventh week, can be discovered through the whole length of the spinal marrow. At this period the first rudiments of the cerebellum may be detected, appearing like two delicate plates. The cervical protuberances, particularly the bulb or cephalic extremity, can be distinguished; and this is accompanied by the appearance of the corresponding limbs. The longitudinal groove can be traced severing the two tubercles recognised as the thalami nervorum opticorum.

In this stage, it is justly remarked by Dr Ollivier, that we must not conclude, because these parts are more easily detected, that, therefore, they have a prior existence. The relations between the several portions of the system are so intimate, that their simultaneous formation must be admitted.

At the beginning of the third month, the spinal marrow is open, as yet containing none of the cineritious part, but consisting only of the white medullary matter. The tuberculi quadrigemini are large and divided by the middle furrow. The thalami are complete, and the cervical and lumbar protuberances are about a third of a line larger than the body of the medulla spinalis. The period at which this canal is closed is not known, and anatomists are not agreed as to the manner in which it is effected; some ascribing it to the gradual deposition of the cineritious matter; others referring the phenomenon to the conversion of the fluid, noticed at an earlier period, into this substance.

At the fourth month, the spinal marrow extends no farther than the base of the sacrum, and the cervical protuberance exceeds the lumbar by one-fourth of a line. At this period, the two middle filaments can be traced to the corpora olivaria, extending their fibres to the tuberculi quadrigemini; and by uniting, form the covering to the aqueduct of Sylvius. The external or corpus restiforme extends so as to form the fourth ventricle, and is united to the cerebellum. The nodus annularis is now perceptible, and the canals of the medulla communicate with the fourth ventricle.

In the fifth month, there is an evident prolongation of the sacral nerves, which gives to the human embryo the appearance of a tail, that is lost before birth. This circumstance has been the subject of much discussion, and has been particularly dwelt on by those, who, like Monboddo, consider our species as naturally endowed with the spinal appendage.

Towards the close of the sixth month, the corpora olivaria are well defined, and the cords from them and the corpora pyramidalia can be traced through the peduncles of the brain, as far as the thalami nerv. opt. They likewise send fibres to the tuberculi quadrigemini. On the outside, a few fibres proceed to the eminentiæ mamillares; the remainder terminate in the lobes of the brain.

In the seventh month, the transverse bands of the nodus annularis can be discerned.

In the eighth month, the spinal marrow can be traced no farther than the fourth lumbar vertebra, and at birth it is stated not to extend beyond the third. The canal is somewhat diminished and continues for some months after birth. The structure and connexion of the spinal marrow and brain are best determined at this period.

Our author enumerates the various synonymes by which the spinal marrow has been designated; and then enters on the description of the bony canal, extending from the cavity of the skull to its termination at the extremity of the sacrum. The only circumstance not usually noticed in the elementary works is the expansion at the lower dorsal vertebræ and at the lumbar. This has been demonstrated by Mr Earle to have a relation to the extent of motion, observable in the different portions of the spinal column.

The larger veins of the meninges run on the sides, between the openings for the passage of the nerves, and the foramina, seen on the posterior surface of the bodies of the vertebræ, which transmit the veins belonging to these bones. These are exterior to the dura mater, between which membrane and the bones there exists a large portion of loose cellular texture, more remarkable on the surface directed towards the processes, which is often the seat of collections of blood and serum, and sometimes contains fat.

He controverts the opinion, advanced by Gall, and adopted by Meckel, of the spinal marrow being formed by the apposition of segments like the vertebræ in the spinal column.

By the circumstances already mentioned, the dura mater lining the spinal canal is strongly contrasted with the membrane within the cavity of the skull. Its adhesions at the occipital foramen are very firm where the membrane is very thick and dense, especially on the posterior portion. It becomes thinner as it descends towards the middle of the dorsal region; after which it preserves a uniform thickness. The longitudinal direction of its fibres is very visible in the anterior portion from the greater transparency. In those advanced in life, Dr Ollivier frequently observed numerous miliary spots, imparting an opake whitish appearance resembling marble, confined, however, to the portion directed towards the spinous processes.

The arachnoid membrane lines the internal surface of the dura mater, to which it is very adherent, and is then reflected on the external surface of the pia mater covering the spinal marrow, and each fasciculus of nerves emanating from it. This internal layer is not adherent, but is connected to the pia mater by a loose cellular texture, containing more or less fluid, first noticed by MAGENDIE, who states that the space between the pia mater and the arachnoid is divided, through the whole length of the spinal marrow, by a cellular partition marked by a rapha on the inside of this cavity. This structure is easily developed by inflation. According to MAGENDIE, the fluid entirely fills this cavity, so that the two portions of the arachnoid are in absolute contact, and that there is a free communication with the cavity of the cranium. Whether this fluid be the product of secretion, or rather the consequence of infiltration after death, seems to be warmly contested. We acknowledge that we are inclined to the latter opinion, advanced and ably maintained by PLENCK, who considers all the serous cavities as distended by a halitus or gaseous fluid, whose elastic and compressible character prevents any undue pressure on their several organs, by the varying states of the circulation or other causes affecting the capacity of these cavities. No bloodvessels have been discovered in the arachnoid.

The pia mater constitutes the immediate covering to the spinal marrow. It is less adherent in the child at birth, when it admits of being easily stripped off. Its texture is cellular and different from that investing the brain, with which it has no other affinity than mere continuity. According to KEUFFEL, it possesses a fibrous structure disposed longitudinally, rendered very evident by plunging it in water after its separation from the spinal marrow. It acquires greater consistence as it approaches the sacral termination, and imparts the greater strength observed in this portion of the spinal marrow. It often has a grayish tint, particularly in elderly people, independent of any morbid alteration. This colour is owing to minute black spots, pervading the whole thickness of the membrane. The bloodvessels are spread upon the surface: more numerous on the posterior portion, they traverse its substance and penetrate the medullary matter. Besides these vessels, KEUFFEL detected filaments proceeding at right angles from the internal or medullary surface presenting the appearance of down. This structure is best observed after the spinal marrow has been steeped in alcohol. From this surface there is a remarkable prolongation, lodged in the anterior middle furrow of the spinal marrow. The pia mater furnishes to each nervous filament a coat constituting the neurilema. There is another production of this membrane, extending laterally and surrounding the roots of the nerves, denominated the ligamentum denticulatum. It terminates at the coccygeal extremity in a thread-like process, sometimes mistaken for a nerve sine pari, which is fixed in the os coccygis. It is sometimes firm and resisting, especially in old people: for about an inch in length it is hollow, and contains a grayish fluid, possessing greater viscidity towards the spinal marrow.

The arteries of the spinal marrow are derived from the vertebral, intercostal, lumbar, and from branches of the hypogastric. They enter at the openings for the passage of the nerves. The most remarkable of these vessels are given off from the vertebral, as they enter the cranium. They are in two pairs: the posterior spinal, which arises from the vertebral, where it comes in contact with the spinal marrow, passes obliquely to its posterior surface, a course parallel to the artery on the opposite side, as far as the second lumbar vertebra. This is a delicate artery: it, however, gives off transverse branches; the internal anastomosing with the opposite spinal artery, the external spread on the neurilema, and distributed in delicate capillary vessels in the medullary substance. The anterior spinal artery arises, likewise, from the vertebral just before its termination in the basilary, occasionally from this artery or the inferior cerebellary. Larger than the vessel lately described, it descends in a tortuous course on the anterior surface of the spinal marrow, supplying its substance. Just as it emerges from the occipital foramen, it joins with its fellow, forming a single artery that descends through the whole length on the anterior surface of the spinal marrow, to which minute branches are distributed.

The veins, seen on the surface of the spinal marrow, are numerous, long, delicate, tortuous, and frequently inosculating, still observing a course corresponding to the direction of the spinal marrow. Their coats are thin, and they are without valves. Though directed towards the head, their size is inversely as their proximity to that part. At the upper portion of the spinal marrow, they unite on the posterior surface to form two venous trunks, while on the anterior surface there is but one; and these communicate with the superior petrous sinus.

Lymphatic vessels have not been discovered.

The alternate rising and sinking observable in the brain has been long known, and referred to the state of the respiration. Considering the continuity of the spinal marrow with that organ, its situation in a bony canal, which it is far from filling, and the numerous vessels it receives, the inference naturally occurs that it is subject to similar motions. HALLER doubted the fact, though VIEUSSENS had observed the phenomenon, which he explains by the alternate systole and diastole of the vessels belonging to the meninges. This observation of VIEUSSENS was overlooked, though confirmed by two cases showing the influence of respiration in producing these movements in the spinal marrow. One of the cases is recorded by BURG, of a child affected with spina bifida, in whom the tumour was observed to swell when the child made efforts at stool; the other is contained in the Journ. de Med. Aug. 1808. Vol. XXIX. p. 140. The experiments of MAGENDIE, Journ. de Physiol. Exp. April 1820, show that the causes giving the impetus to the circulation, and the afflux of fluid forced into the cavity of the dura mater and the spinal canal, at every act of expiration, modify this phenomenon.

The spinal marrow strictly speaking extends from the medulla oblongata, or cerebral protuberance, to the middle of the first or second lumbar vertebra. KEUFFEL has observed it terminating at the eleventh dorsal and the third lumbar. Throughout this extent it communicates with numerous nerves. Its consistence exceeds that of the brain, though less than that of the nodus cerebri. According to CHAUSSIER, it is firmer in the child at birth than in the strongest man, and softer in the female. In the adult it is about 1-20th of the weight of the brain; in a new born child 1-40th.

The medulla is not a perfect cylinder; for it gradually diminishes as it proceeds from the head, and is somewhat flattened in the antero-posterior diameter. It presents, likewise, three remarkable protuberances; the first termed the superior or cephalic bulb by CHAUSSIER, and known to the ancients as the cauda medullæ oblongatæ; the second or cervical protuberance extends from the second cervical vertebra to the first dorsal, its greatest dimensions being opposite to the fifth or sixth vertebra of the neck; the third, or lumbar, commencing with the tenth dorsal and terminating with the last vertebra of the back. The second enlargement corresponds to the space between the second cervical and the first dorsal nerve; the third, to the space between the first lumbar and the third sacral nerve. These protuberances are larger in proportion as the individual approaches the age of thirty, and less in the advanced period of life.

In addition to the corpora pyramidalia and olivaria, recognised by anatomists, Dr O. notices two other bodies, first described by Rolando, according to whom these tubercles are seated on the outside of the corpora olivaria. They consist of a portion of the cineritious substance of the medulla spinalis and oblongata, and may be traced as far as the fourth ventricle, where they resemble two spear-shaped bands, placed between the corpora pyramidalia, as these form the calamus scriptorius.

On the anterior surface of the medulla spinalis, there is a longitudinal furrow, whose sides are formed by bands apparently resulting from the gradual contraction of the oblong half ovoid eminences, situated on the internal and inferior portion, covering the calamus scriptorius. A similar though more superficial furrow exists on the posterior surface. On the sides of these furrows may be seen the fibres, constituting the roots of the nerves.

On a transverse section of the spinal marrow, it is observed to be composed of an extremely white or medullary matter, and an internal cineritious substance. For this demonstration a very young subject should be selected; as in the advanced periods of life the line of demarcation is not well defined. The figure and size of the internal cineritious substance seem to be affected by the point where the section is made, and it is more abundant when the nerves are given off. The proportion is larger in man than in the brute, which perhaps explains the difference of figure assigned by those who have treated of this subject. In man there is no space or cavity between the cineritious and medullary matter, while in the horse, a canal pervades the whole length of the spinal marrow.

The white or medullary matter, according to Ollivier, is composed of four layers or bands; two anterior, occupying two thirds of the circumference; and two posterior, to which the remaining portion is assigned. These may be separated into filaments, consisting of delicate membranous tubes, in which is lodged the white medullary matter. The latter may be removed by a solution of potassa, from ʒss to ʒj in the f℥j, in which the spinal cord should be macerated for some days; after which the part is to be repeatedly washed in clear water, and then laid on a black board, when there will be exhibited, innumerable threads, proceeding at right angles from the internal surface of the pia mater, and converging towards the centre of the spinal marrow. Their tenuity is such, that they are not always discernible with the naked eye. The arrangement and intimate connection of these fibrillæ afford a series of longitudinal spaces, enclosing the medullary matter. Hence, on cautiously separating the two halves of the spinal marrow, we perceive a multitude of longitudinal bands, especially when the part has been hardened by immersion in alcohol.

This is the structure as developed by the experiments of KEUFFEL and OLLIVIER. The latter performed the ablutions of the medullary matter by a delicate current of water, directed through a fine syringe, from which the piston had been removed.

Of all these prolongations from the internal surface of the pia mater, the most conspicuous is the semi-partition extending into the middle anterior furrow of the spinal marrow. It is almost as delicate as the arachnoid membrane, yet it possesses the firmness of the pia mater, and is vascular. It has a series of triangular processes, which penetrate the medullary matter, and are easily detected after immersion in alcohol.

A very delicate filamentous structure may likewise be traced in the cineritious substance.

Dr OLLIVIER considers these fibrillæ as composed of cellular membrane, and ramifications of vessels, confirmed, as he thinks, by the arborescent distribution of its several parts.

At the close of this article he denies the existence of any canal, as described by GALL, NYMANN and CLOQUET.

Each nerve that arises from the spinal marrow has two roots, anterior and posterior, whose relations in point of size are in the neck as 1 to 2, in the back equal, and in the loins and sacrum as 1 to 1 1-20.

Each root is formed of several distinct fibres, whose tenuity is more remarkable in the anterior root; a difference which may be observed through the whole extent of the spinal marrow, particularly in the brachial plexus in man.

The continuity of the cineritious and medullary matter in the root of the nerves has been denied by some anatomists; though its existence is generally admitted. Of this latter sentiment Dr OLLIVIER is the advocate.

Besides the nerves arising immediately from the spinal marrow, there are others which have an intimate connection with the medulla oblongata, whose nature it is interesting to know. Of this class are the respiratory nerves of Mr C. **Bell**, situated between the corpora olivaria and restiformia.

PART II.

The influence which the spinal marrow exerts in the preservation of life, and on the exercise of the internal functions, places this organ in the rank of those which are the most essential to the living animal. Excepting in some of the inferior classes, it is found more or less varied in form, more perfect in proportion as perfection prevails in the entire organization.

At an early period in the history of medicine, lesions of the spinal marrow had been observed to produce a paralysis in the parts below the injured spot. To the knowledge thus obtained, successive additions have been made by experiments undertaken at different periods, the history of which has been collected by **Haller***. We are, however, indebted to inquiries of a very modern date for precise information respecting the influence of particular parts of the spinal marrow, as connected with sensation and motion. The experiments of **Bell** and **Magendie** have shown that the posterior roots of the spinal nerves are the seat of sensation, while motion is dependent on the anterior. According to **Ollivier**, however, the results of irritation on the several roots of these nerves, are not quite distinct; which he explains by the two lateral portions of the cineritious matter being blended at the points of contact: and he farther remarks, that the intimate union of the two roots, in the intervertebral ganglion, must affect their respective properties.

When one side of the body is affected with paralysis or convulsions, a lesion of the corresponding side of the spinal marrow generally exists. The only authentic case to the contrary is recorded by **Portal**.

What is the comparative influence of the cineritious and medullary substances on the functions of the spinal marrow?

Dr **Ollivier** is of opinion, that the sensibility resides in the cineritious substance, and that the motions are dependent on the medullary. In support of this opinion, he adduces the following results of experiments made by BELLINGERI.

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* Elem. Phys. Tom. IV. p. 324.

1. The posterior bands of the spinal marrow preside over the motion of extension only.

2. The anterior bands are connected with that of flexion: therefore these bands antagonise each other.

3. The posterior bands produce a relaxation of the sphincter vesicæ, and a contraction of the sphincter ani.

4. The anterior cause a contraction of the sphincter vesicæ, and a relaxation of the sphincter ani; whence the two portions act as antagonising powers on the sphincters, but in an inverse ratio.

5. The anterior and posterior bands affect the motion only, and not the sensibility.

6. The medullary matter is the exclusive seat of motion.

7. The influence of the cineritious substance is confined to the touch.

In further confirmation Dr OLLIVIER states, that the inflammation of the spinal marrow always commences in the cineritious substance, and is announced by numbness and tingling symptoms, which, he thinks, could not exist, if this central portion exerted no influence on the functions of sensibility and motion. Allowing the observation its utmost value, it does not prove that the sensibility is exclusively seated in the cineritious substance, unless the fact be established, that the motions remain unaffected,—on which point he is perfectly silent.

But the functions of the spinal marrow are not confined to the production of sensibility and motion in the trunk and limbs, in conveying impressions to the brain, or in the impulses of volition from that organ, and transmitting them to the muscles of voluntary motion. For this nervous centre exerts a decided influence over the phenomena, intimately connected with the preservation of life. Thus respiration is in immediate dependence, and holds an intimate connexion with the integrity of the upper portion of the spinal marrow as formerly noticed. On account of the particular disposition of these nerves and the office they perform, Messrs BELL and BELLINGERI have assigned a third band, intermediate to the anterior and posterior, which they consider as presiding over the organic and instinctive functions.

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[*] Anat. Med. Tom. IV. p. 116.

We cannot assent to the correctness of the statement made by Dr OLLIVIER, that in lesions of the spinal marrow opposite the fifth cervical vertebra, respiration is rendered anxious, and the individual finally sinks, because the influence of the phrenic and intercostal nerves has been interrupted. The phrenic nerves remain untouched; and on the diaphragm to which they are distributed the whole labour of respiration depends. It toils hard,—for it is deprived of the assistance of the other motive powers destined for enlarging the capacity of the thorax, and in the respite of its action receives no aid from the power of the abdominal muscles in expelling the air from the lungs. Hence the whole function is at fault, and gradually fails. When the injury occurs at, or above, the third cervical vertebra, death follows instantaneously; because all the motive powers concerned in respiration, cease to receive the essential influence from the spinal marrow.

Upon these facts the truth of the proposition will be readily admitted, that the upper portion of the spinal marrow exercises an important dominion over the vital functions, and is, therefore, in some degree the fountain of life. Judging from the nervous distribution belonging to the heart, and from experiments lately performed by WILSON PHILIP and others, the actions of this organ are independent of any portion of the medulla below the occipital foramen.

The digestive organs derive their nerves from the trisplanchnic, which has many and intimate connexions with the spinal marrow below the neck; but the influence of the superior portion of this great nervous cord and of the brain itself, is conveyed to these organs by means of the supplies from the great sympathetic. What share each portion may have in the various functions belonging to the viscera contained in the abdomen has not been ascertained. The effects produced on these organs by lesions of the spinal marrow will come before us in the progress of our analysis.

Here we close the review of the anatomy and physiology of the spinal marrow, in which we have endeavoured to give, in a condensed form, the principal facts and speculations presented by OLLIVIER. It is now incumbent on us to examine the pathology—a task more difficult, though certainly not less interesting to every one engaged in the healing art. We hope to do justice to the author, and to inspire in our readers a spirit of inquiry, that may lead to fuller information on a class of morbid affections hitherto imperfectly understood, and concerning which valuable additions may be made to our stock of knowledge, by recording the symptoms during life, and by noting the alterations from the natural structure observed after death.

PART III.

The pathological history of any organ to be complete must embrace every alteration of structure whether congenital or accidental. Dr **Ollivier** properly begins with those that are congenital; and he first treats of the total absence of the spinal marrow, termed by **Beclard** amycloisa. He notices the case recorded by Dr **Clarke** in the Philosophical Transactions, 1793, where not a trace of the nervous system could be detected. He pronounces the case to be unique. Instances of deficiency of the spinal marrow have been numerous, and we are referred to the works of **Morgagni**, who has collected all the histories published by preceding writers. But he considers them on many occasions as not possessing that precision in the details which the subject required. The case from **Valsalva**, and another recorded by **Littre**, Mem. Acad. Roy. 1701, p. 24, are adduced by him as affording sufficient evidence of the total absence of the spinal marrow. **Fauvel** in 1711 presented to the Academy a fœtus without brain and spinal marrow, in other respects perfectly formed, that lived for two hours. One recorded by **Mery** lived twenty-one hours. Dr **Lallemand**, in an inaugural dissertation, published at Paris in 1818, has described a male fœtus of the eighth month, in whom, through the whole length of the vertebral column, the dura mater and the other membranes were spread open, presenting a mere groove instead of the natural cavity. At the sides there were two rows of white tubercles of the size of a pin's head corresponding to the intervertebral spaces. The nerves terminated at these tubercles. A case strongly resembling this is likewise given by **Geoffroy St Hilaire**, in a work on monstrosity. In these, as in all the observations that have been circumstantially detailed, the absence of the spinal marrow has been accompanied by a corresponding loss of the brain. Dr **Ollivier** pronounces the two cases cited by **Morgagni** from **Ruyger** too loose in their description to be admitted as exceptions to this position.

In some recent cases of total, or apparent, absence of the brain and spinal marrow, an attentive examination has detected, in the place of these organs, a sac, occupying the upper and back part of the head and extending along the spinal canal, filled with a yellowish viscous fluid. This fluid Dr Ollivier views as the rudiment of the brain and spinal marrow, agreeably to the condition observed in the early period of the fœtal state; the ulterior changes being interrupted, though the other portions of the system continue to advance in the regular development of their organization. This opinion was advanced long ago by Huber*, Malpighi†, and Bellini. Morgagni however ascribes all the phenomena to an hydropic condition of these organs. Perhaps there is sufficient evidence that either cause may operate to producing this effect.

We shall pass over some other congenital variations from the natural structure noticed by Dr Ollivier, because we have not been able to perceive that they contribute in any degree towards explaining the physiology or pathology of the spinal marrow. We allude to the existence of a cavity in the centre of this organ, and to its division into two cords, records of which may be found in Morgagni, Bonnetus, and other writers, who have collected observations on the anatomical structure of monsters.

Spina bifida, or hydrorachis as it is termed by our author, is one of those congenital deviations from the natural structure frequently observed in children long after birth, and which has been occasionally the subject of medical treatment. It is characterized by one or more tumours occupying the whole extent, or several portions of the spinal column.

The tumour varies in figure and size; somctimes it is transparent, on other occasions it has been observed to be opake. It may have a covering of the common integuments, but more generally its coats differ from the dermoid texture, being sometimes pale and semitransparent; in other instances presenting a red or purple colour.

This affection is most frequently observed in the loins, though it has been noticed in other portions of the spine. The cleft may extend to the bodies of the vertebræ; more generally it is confined to the arch supporting the processes, particularly the portion on which is seated the spinous process.

The contents of the tumour are fluid, limpid, and scarcely to be distinguished from that seen in the ventricles of the brain. According to the experiments of Bostock and Marcet, it affords less albumen and less saline matter than the serum of the blood.

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* De Medulla Spinali.

† In Posth. p. 39.

This fluid may be contained in the cavity of the pia mater, or it may be lodged between it and the dura mater, or even exteriorly to the latter membrane. In the first instance, there will be more or less destruction of the spinal marrow, which is the case when it is complicated with hydrocephalus. When the fluid is collected on the outer surface of the pia mater, the spinal marrow will be less or not at all affected.

This mal-conformation, though impairing in no degree the functions of the fœtal state, is fraught with danger after birth, as the rupture of the tumour has generally been followed by death.

The means of information are too scanty for hazarding the faintest conjecture respecting the causes of this malady.

For the cure, it has been proposed to make moderate pressure by compresses and suitable bandages. HEISTER states that a surgeon, named STEUBER, practised this method with success. Sir A. COOPER has recorded two cases in which the absorption of the fluid was effected; but on the removal of the pressure, the tumour was liable to return, and the patients were compelled to wear a truss. Of course this treatment is to be considered as merely palliative. This distinguished surgeon, however, in one instance effected a perfect cure by repeatedly puncturing the tumour, as proposed by Mr ABERNETHY; but this case, and that from MORGAGNI stand as the only ones on record, in which the attempt has been crowned with success. For fuller instructions, our readers are referred to the Medico-Chirurgical Transactions, Vol. II. in which these interesting cases are detailed. MORGAGNI, Epist. 12, Art. 9, notices a case of spina bifida, which being punctured by a surgeon, the tumour continued to discharge a limpid fluid for six days, when the wound cicatrized and the child got well. DESSAULT and B. BELL have recommended the passage of a seton; but the practice is justly reprobated by Dr OLLIVIER.

Various morbid affections are observed to follow injuries, inflicted on the spinal marrow. They are accompanied by symptoms, varying in character, according to the particular seat of the injury. These lesions will now occupy our attention.

A wound, inflicted between the occipital bone and the first vertebra of the neck, penetrating the corresponding portion of the spinal marrow, is followed by instant death. Two remarkable cases of this kind are given by PETIT, and are cited by Dr OLLIVIER. Numerous others might be obtained from the records of surgery.

Dr O. remarks, that if the injury occur at a different part, though very near, death may not be the immediate consequence, and life may continue even for some days. In illustration he cites a case from DUVERNEY*. The man received a wound from a pistol ball, that sunk deep in the upper and lateral part of the neck; he ran a few steps, and then fell senseless. He had convulsions in the superior extremities, and paralysis of the inferior. After copious bleeding, he recovered his senses, but without the power of speech. On the fourth day, he died. The examination after death exhibited a fracture and depression of the transverse process of the second vertebra, causing compression of the spinal marrow and division of the large nerves.

Where there is a mere puncture of the spinal marrow, though penetrating deep, the severe symptoms that immediately follow are gradually dissipated, and life may be preserved. An example may be found in MORGAGNI†; the history of which is transcribed in the work before us. A case, similar in many of its circumstances, is recorded by BOYER‡, which is transcribed at length by Dr O. In twenty days the wound was healed, and the man left the Hospital with complete paralysis of the right side, and insensibility of the left side below the arm. This condition continued ever after. The symptoms in this case can not be explained by the mere wound of the spinal marrow. They evidently involve some other derangements which have not been duly appreciated. Effusions, inflammations, and alteration of structure may follow, and induce their respective train of symptoms.

In the lesions opposite to the lower cervical vertebræ, the following symptoms have been observed: Speech difficult, or impracticable; deglutition likewise difficult, or impracticable. Respiration more or less impeded, according to the seat of the injury, at or above the fourth vertebra of the neck. Neither the diaphragm nor intercostal muscles can act, and the office is performed by the superior respiratory muscles connected with the neck and shoulders. Every act of inspiration is accompanied by a violent elevation of the shoulders and chest. There is no corresponding movement in the walls of the abdomen. There is great anxiety and apparent suffocation. Death soon follows. But when the injury occurs at or below the fifth vertebra, the origin of the phrenic nerves being undisturbed, the breathing is freer, the inspiration is strong, but expiration is unaided by the contraction of the abdominal muscles. The patient can yawn, but sneezing and coughing are impracticable. There is complete paralysis of the superior extremities, when the injury occurs above the junction of the fifth and sixth cervical vertebræ. An imperfect motion may sometimes be observed, which is to be ascribed to the action of the muscles that move the shoulder. The erection of the penis is a frequent symptom. It was first distinctly noticed by M. DUPUYTREN; and we find that it occurred in one half of the cases contained in the work under review.

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* Maladies des Os. Tom. I. p. 24.

† Sed. et Caus. Morb. Ep. 53. A. 22.

‡ Maladies Chir. Tom. VII. p. 9.

When the lesion is at or below the second dorsal vertebra, the upper extremities retain their sensibility and power of motion. The breathing is difficult, because the intercostal muscles are inactive. But this difficulty diminishes, in proportion as the injury approaches the lower portion of the dorsal region. The expiration is imperfect, for the action of the abdominal muscles is destroyed.

As life is prolonged, other symptoms present; as constipation, and inability to discharge the urine. The introduction of the catheter is required, and the instrument is often incrusted to a degree that is not observed on other occasions. Frequently the post mortem examination exhibits great alteration in the structure of the bladder. Extensive sloughing of the soft parts covering the sacrum adds to the sufferings of the patient.

In the treatment, the first indication is the removal of all foreign bodies, whose presence cannot fail to aggravate all the symptoms. In cases of fracture of the vertebral processes, and consequent compression of the spinal marrow, it has been proposed to relieve this compression by cutting down to the spinal column and removing the depressed bone. The operation has been practised, but has only proved partially successful. The immediate indications for the operation were fulfilled; the patient recovered his sensibility, but the power of motion was never restored. The whole cavity of the abdomen became violently inflamed, and the man died on the fifteenth day after the operation.

Bloodletting, general and topical, cold or tepid applications to the part, low diet and absolute rest, must be resorted to in proportion to the exigences of the system. Attention must be paid to the state of the bladder, and undue distention guarded against by the introduction of the catheter. The body must be kept soluble, but purging should be avoided, as interfering with the rest which is so essential in the treatment of these severe accidents.

The compression of the spinal marrow may be the result of causes operating in a more gradual manner. Hence the progressive failure of sensation and voluntary motion, proportioned to the degree and extent of this compression. The symptoms usually noticed, are a numbness and tingling of the part, similar to what occurs from accidental pressure on the nerves. The limbs refuse to perform their proper office; the patient staggers, especially when walking on uneven ground. The skin becomes dry, throwing off branny scales, and the lower limbs are prone to œdematous swellings. Constipation and a difficulty in voiding the excrements are often observed. The contents of the urinary bladder cannot be discharged without considerable effort. Frequently the person complains of pain and soreness, that are mistaken for rheumatism. Convulsions and chorea have been frequently traced to compression of the spinal marrow.

Among the specific causes are ranked exostosis, thickening of the ligaments, and tumours of various descriptions, diminishing the calibre of the spinal canal. Caries of the bodies of the vertebræ, by causing an unnatural angle, has been frequently observed to produce the train of symptoms, dependent on compression of the spinal marrow; and in the opinion of Dr OLLIVIER, it is only in cases of the latter description, that there is any prospect of relief. For this purpose he relies on the use of caustic issues as recommended by POTT.

He next examines the effects of concussion of the spinal marrow proceeding from falls or blows. The shock thus produced may be followed by an effusion of blood; when the symptoms of compression will present. These are, loss of voluntary motion and sensation; the involuntary discharge of the fæces and urine; convulsions; and death.

Where life is not destroyed, the symptoms may gradually disappear in proportion as the effused blood is absorbed. Dr OLLIVIER states, as diagnostic of concussion, that he never knew it followed by priapism, so frequent in the other injuries of the spinal marrow.

In the bodies of persons advanced in life, there is frequently observed a remarkable dilatation of the venous system belonging to the vertebræ and spinal marrow. These vessels are not supplied with valves: *the circulation* is necessarily languid, and *whatever* can retard the return of blood will occasion more or less congestion. Upon this principle may be explained the cases of paralysis without injury of the intellectual faculties. The persons are affected with weakness and pain of the limbs, gradually extending from the lower to the upper parts of the body. The breathing is sometimes affected, being rendered slower yet regular: the circulation is not disturbed. The functions of the rectum and bladder are rarely affected, though costiveness is a usual attendant. In the severer forms, pain is often felt in the back, in proportion as the paralysis advances.

This congestion may lead to the accumulation of serous fluids in different portions of the spinal cavity. Such collections are often observed between the pia mater and arachnoid membrane. The paralysis will be characterized, according to the position and extent of these effusions. By the action of the absorbents, such accumulations may be gradually removed, and the individual will in proportion have all his functions restored. The over distended vessels may be ruptured, and the pressure from the extravasated blood may induce an aggravation of all the symptoms and even death. According to our author, a rupture or division of the medullary fibres, resulting from the effusions of blood, is followed by permanent paralysis; as the continuity of these fibres cannot be restored. In the cases of recovery from paralysis, proceeding from effusions of blood in the medullary substance, he supposes the accumulations of blood to have occurred between the medullary fibres, without their division. As a physiological fact, it may be stated, that in nerves which have been divided, the continuity is restored very slowly; and consequently that the functions of the parts, to which such nerves are distributed, remain long impaired. The case recorded by Mr ABERNETHY affords convincing proof, that, even in the human subject, the paralysis from division of the nerves is not necessarily permanent.

Our pathological views are necessarily influenced by the notions we have imbibed respecting the healthy structure and condition of the several organs of the body. It has been questioned whether, in the healthy state, the vertebral canal is the seat of a serous fluid. HALLER, PLENCK, and many other physiologists of the highest character have considered the serous fluid, discovered in the various cavities of the body after death, as resulting from the condensation of the natural halitus; or as proceeding from the exudation of the fluids contained in the vessels or organs in the immediate vicinity. The fluid found in the ventricles of the brain, in the pericardium, in the thorax and abdomen, are familiar to every student of medicine; and they have received appropriate appellations. In addition to these, COTUNNIUS, as early as 1764, described the existence of a palpable fluid contained in the cavity of the vertebral canal. As the experiments and observations lately published by MAGENDIE have excited considerable interest, we believe the following quotation from COTUNNIUS to be worthy of attention.

"Quicquid, autem, spatio est inter vaginam duræ matris et medullam spinalem, id omne plenum etiam semper est non medulla quidem ipsa in viventibus turgidiore non nube vaporosâ, quasi in re adhuc obscurâ suspiciantur summi viri, sed aquâ ei quidem simili quam circa cor continet pericardium quæ caveas cerebri ventriculorum adimplet, quæ auris labyrinthum, quæ reliquiæ tandem complet corporis cava libero aere nequaquam adeundum*."

We have remarked, in the majority of cases adduced by our author in illustration of the morbid changes incident to the diseases which engaged his researches, that congestions of blood were often observed throughout the capillary system, presenting the red colour which has been lately insisted on as indicative of inflammation. In some of these cases the nature of the indispositions was complicated; but the sixty-second case is of a character not to be mistaken. A soldier, aged 26, died from a bayonet wound, inflicted on the left temple. The examination of the body showed that the instrument had penetrated deep into the brain. Blood was effused over the lobes and base of the skull. It flowed freely from the vertebral canal when the brain was removed. The lungs were gorged with blood. The mucous membrane of the stomach was of a deep red, and thickened. The small intestines presented many red patches, and the contents of these viscera were extremely acid. In the large intestines, small granulations of the size of hempseed were seen elevating the mucous membrane. The membrane lining the bladder was pale, except at the portion denominated by the French trigone vesicale, which was finely injected.

The inflammation of the membranous coverings of the spinal marrow is generally complicated with a similar affection of the corresponding meninges of the brain. In the dead body, it is characterized by opake membranous exudations of a pale straw colour, varying in thickness and consistency; sometimes spread over the whole spinal marrow, or distributed in patches, and generally lodged between the arachnoid and pia mater. On removing this exudation, the cellular texture intervening between the arachnoid and pia mater will be found thickened and injected. Dr OLLIVIER contends, that the arachnoid never exhibits any traces of inflammation, and supports this doctrine by the observations of BECLARD*, who states "that vessels have never been discovered in this membrane, not even in the diseased state." While we admit that on many occasions the appearances can be explained on the principles laid down by our author, yet the agglutination of the opposing surfaces of the arachnoid membrane, noticed even by Dr O. himself, exhibits sufficient evidence that this membrane may be the seat of inflammation. We believe that in the prevailing rage for the specific location of the several morbid changes, the subjects have not been examined with that scrupulous attention, which can alone establish the dogmas that have been of late promulgated. Precision in our views is certainly desirable; and to attain this object, the most assiduous attention should be devoted to every minute circumstance connected with pathology, as observed during life or after death. Discrepancy of opinion will continue to disfigure medical science, as long as partial and hasty views are allowed to constitute the foundation on which the superstructure is to be raised.

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* Sandefort, Thesaurus, Vol. II. p. 411.

Among the morbid appearances noticed by Dr OLLIVIER, we may mention serous collections and cartilaginous plates, which he has observed to follow chronic inflammation of the contents of the spinal canal.

The organs which receive their nervous supplies from the spinal marrow become secondarily affected, and generally exhibit more or less evidence of sanguineous congestion. Where, however, the disease has been rapid in its course, the traces of inflammation may not be discerned in the post mortem examination.

The symptoms which denote the presence of inflammation of the meninges of the spinal marrow (meningitis rachidiana) are in the beginning often obscure. The disease is generally ushered in by a sense of uneasiness and weariness of the limbs, accompanied by constipation, dysury, or even retention of urine. The patient complains of pain in the back, sometimes confined to the loins. This pain is at first dull, and soon extends to the limbs. From what has been already stated, the diagnosis will be often found difficult, in consequence of the affection being complicated with inflammation of the meninges of the brain. The two following symptoms are considered by our author as pathognomonic.

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* Anat. Gen. p. 251, 1st Edit p 214. 2d Edit.

The first consists in a general contraction of the muscles on the posterior part of the trunk, varying from a simple rigidity to the more violent contortion, as in episthotonos, the head being thrown back and the spine bent into an inflexible arch. These tetanic contractions are observed particularly when any attempt is made to move the patient; though, on some occasions, they occur when no external movement has been imparted to the body. These contractions appear to be excited by the severe paroxysms of pain, are very frequently remittent, and do not always prevent the patient from turning in bed.

The other symptom is the pain, more or less severe, felt in the back, propagated from the point where the inflammation is the most intense. Like the muscular contractions, it has its remissions, and even intermissions. According to Dr Ollivier, the pain, on these occasions, is not increased by pressure. The case recorded by Kouff, in the Physiological Journal of Magendie, he regards as no exception to this rule; for there was deformity in the spinal column, though the morbid appearances of the vertebræ were not noticed in the dissection after death.

This severe pain, referred by the patients to the course of the spinal column, is a constant symptom of the inflammation of the meninges. It radiates from the primitive point, extends to the limbs, and is aggravated by every change of position; causing the most excruciating agony. This increased sensibility is peculiar to the inflammation of the membranes, and serves to distinguish it from the inflammation of the spinal marrow, where there is generally a total loss of sensibility.

The breathing is short and difficult. The pulse is little changed in the beginning, being always regular. In the progress of the disease it becomes more frequent, and diminishes in volume, while the motions of the heart are strong and rapid. In proportion to the severity of the pain, sweat breaks out, which is particularly observed where the spasmodic contractions are intermittent.

From the violent spasms, so constantly observed in the affection under consideration, some late writers have considered tetanus as dependent on inflammation of the meninges of the spinal marrow; but Dr OLLIVIER remarks that the coincidence is by no means uniform, and not so frequent as to justify this hypothesis.

The opinion entertained by JANSEN, that the convulsions and spasms observable in cases of curved spine are owing to the inflammation of the meninges of the spinal marrow, is adopted by our author.

The prognosis is unfavourable, and the majority of writers have deemed inflammation of the meninges uniformly fatal. Dr O. quotes a case from FRANK, where the disease was removed by early and free bleedings, together with other means belonging to the antiphlogistic plan.

Among the causes may be ranked, external violence, as blows, falls, and severe jolting. Those persons, afflicted with rheumatism, are said to be more prone to the disease. It is often induced by vicissitudes of temperature; and rheumatism may be translated to the spinal marrow, as to the heart and other organs. At the same time, we must bear in mind that the pains incident to neuralgia are often denominated rheumatic.

The *treatment* will consist in the strict adherence to the antiphlogistic plan. Among the means for fulfilling this indication, our author has suggested the application of ice or cold water along the back, after the manner observed to be so successful in inflammation of the meninges of the brain.

The inflammation of the proper substance of the spinal marrow has received various denominations. The term myelitis, introduced by HARLES, is preferred by our author, and considered as sufficiently contrasted with encephalitis, the term employed to designate the inflammation of the brain.

The earliest symptoms, observed in this disease, consist in a numbness of the fingers and toes, accompanied by some impediment in the motions of the parts, and occasionally by a sense of coldness. To these succeed partial or general convulsions. Pain is referred to some portion of the spine, according to the seat of the inflammation; but, agreeably to the observations of Dr OLLIVIER, this pain is not aggravated by motion or by pressure. KLOHS states that lying on the back, and particularly on a feather bed, is painful. COPELAND has remarked the peculiar heat excited in the affected spot, by passing a sponge dipped in warm water along the spine.

The sensibility and motion may be simultaneously or singly impaired. The progress of the paralysis is generally from below upwards, though the reverse is said sometimes to occur,—a circumstance which does not admit of a ready explanation. If the disease be complicated with inflammation of the meninges, pain may be observed on motion. Dr O. mentions one case where this symptom was present, though the post mortem examination exhibited no trace of inflammation in these membranes. Constipation is generally observed, while the discharge of urine frequently remains undisturbed. It is only in the last stages, that the involuntary discharges of fæces and urine have been noticed.

In the early stage, the pulse is frequent, full, irregular, and bounding. Occasionally the fever is intermittent. The breathing is frequent and difficult.

These are the general symptoms strictly appertaining to the acute inflammation of the spinal marrow; but the nervous communications between this cord and the several organs of the human system lead to the production of a variety of sympathetic affections, according to the peculiar seat of the inflammation. If the inflammation extend to the medulla *within the skull*, there will be disturbance of mind, violent delirium, trismus, grinding of the teeth, a dry red tongue, difficulty of swallowing, loss of speech, short and hurried breathing, occasional vomiting, hemiplegia more or less sudden, or even general paralysis, the partial destruction of sensibility and motion singly, or the total abolition of both, according to the portion and extent of the spinal marrow affected.

The inflammation of the cervical portion is marked by pain in the back of the neck, rigidity of the muscles of the neck and upper extremities, convulsions, and paralysis. The breathing is difficult, and performed by the diaphragm. Deglutition is also difficult, and the pulse is frequent and hard.

When the dorsal portion, between the two bulbs, is inflamed, the trunk is agitated, the limbs remaining unaffected with convulsions, unless these bulbs be the seat of the disease. The inspiration is short, and performed by the action of the external muscles. Palpitations and irregular pulsations of the heart may be observed. Fever.

Violent pain in the loins, weakness and paralysis of the lower extremities, colics, sense of constriction of the walls of the abdomen, the retention or the involuntary discharge of the fæces and urine, are the symptoms observed when the lower portion or the crural bulb is affected. When the inflammation is chronic, these several symptoms are slower in their progress.

Hence many cases of supposed rheumatism, with weakness of the limbs, may be justly ascribed to this affection of the spinal marrow. Dr O. is of opinion, that palpitations of the heart, angina pectoris, particularly when accompanied by pain extending to the neck and along the arm, may, on many occasions, be referred to the same source.

Death is the most usual consequence. Yet there is reason to believe that a favourable issue has in a few instances been obtained, by the strict observance of the antiphlogistic treatment.

With the advance of age many alterations may be observed in the animal economy. The gradual failure and abolition of some of the faculties, the reduction of stature, and the wasting of the flesh, do not escape the most superficial observers. The internal organization is alike subject to changes from the perfect and healthy condition. Haller, Morgagni, and Fischer, remarked the diminished volume and increased density of the brain in old people. This fact has been emphatically stated by Cotunnius. According to the observations of Chaussard and Desmoulins, the spinal marrow is at the same time sensibly diminished in size, while its density is manifestly increased. This condition our author denominates atrophia senilis. Every departure from the sound and healthy condition of the human system is interesting to the medical practitioner; and the value of such information will be duly appreciated, though we must all despair of ever possessing the power to stay the hand of inevitable fate and bring back the body to its pristine vigour.

Our author next passes to the hypertrophy of the spinal marrow, which he is disposed to consider as a chronic form of myelitis; and he refers to cases detailed under that head, in illustration of this view.

The meninges have been observed occasionally to be the seat of hard depositions, resembling cartilage or bone. Dr Ollivier states, that they are more frequently found in the arachnoid membrane on the surface directed towards the pia mater, rarely on the other surface, and still more rarely on the membrane lining the dura mater. They have been most frequently seen in the lower portion of the dorsal region. They have been detected in persons, who had been affected with epilepsy, or with pains supposed to be rheumatic.

On some occasions, no symptoms have occurred, denoting any disturbance in the functions of the spinal marrow.

The existence of tumours pressing on the spinal marrow, and the consequent train of symptoms have already engaged our attention. We, therefore, deem it unnecessary to accompany our author in the further details offered in the present section of his work; the more especially, as the precise character of such adventitious growths cannot be determined, until death has closed the scene; and the practitioner who is apprized of their probable existence will form his prognosis, and conduct the treatment, with a caution suited to the present imperfect state of medical science.

The functions of the animal economy are regulated by the nervous system, of which the spinal marrow may be considered as the centre. The effects of injuries, and of certain morbid conditions of this nervous centre are necessarily propagated to the various organs; and the actions appertaining to them become interrupted, or imperfectly performed. The question naturally presents itself to the pathologist, whether the morbid impression, thus communicated to the viscera, be accompanied by a corresponding derangement of structure; or in other words, whether the examination of the dead body will exhibit any diseased appearances in the organs whose functions have been impaired. The observations of M. CHEVALIER, as recorded in the Medico-Chirurgical Transactions, show that injuries of the spinal marrow, accompanied by paralysis of the bladder, lead to a remarkable alteration in the structure of that viscus. This fact we had an opportunity of seeing manifested in an eminent degree, in a case of paralysis, produced by an effusion of blood within the spinal marrow, nearly opposite to the fourth dorsal vertebra. In looking over the observations, collected by Dr OLLIVIER, we have noticed considerable changes in many of the viscera, where the primary affection could be traced to the injury of the spinal marrow. But the perusal of these cases does not satisfy us that these changes are uniform. Future observation can alone determine the full extent of the connexion and dependence of these phenomena.

We have consulted most of the authors referred to by Dr OLLIVIER, and have critically examined the excerpts which he has made from their writings. It is with great pleasure we offer our feeble testimony in favour of the accuracy and fidelity with which he has executed a work on the anatomy and pathology of the spinal marrow; a work that cannot fail to be interesting to every one seeking information in this department of medical science.

ARTICLE XI.—*Commentaries on the Causes, Forms, Symptoms, and Treatment, Moral and Medical, of Insanity. By* GEORGE MAN BURROWS, M.D. *Member of the Royal College of Physicians of London, &c. &c. London,* 1828. *Pp.* 716.

Of the dread array of diseases with which man during his sojourn on this earth is afflicted, insanity is the most fearful in its nature and consequences. To other ills, whether of person or fortune, he is able, by his own fortitude and resignation or by the advice and assistance of friends, to oppose some barrier for obtunding their point or mitigating their violence. But to the insane man the recommendation of patience, the holding out the balm of religion, or the more elaborate reasonings of philosophy, are too often but fresh causes of distemperature. He may seem to lend an ear to our counsel: he hears, but he understands not. He is governed by an imperious impulse, which forbids his mind to dwell on the sober realities of life, and disables it from connecting in suitable causation the phenomena around him. The material world is full of danger to one so circumstanced as to convert the elements into so many causes of destruction. He feels, but fears not the winter's pinching colds, or summer's parching heat: the yawning chasm and precipitous height are, in his delirious ravings, but as level ground; and the impetuous and overwhelming torrent conveys to his mind no stronger sensations than would the rippling stream to the quiet gazer at peaceful nature. In equal ignorance and misconception does the unhappy maniac treat the soothing attentions and blandishments of friends and relatives. The once endearing titles of mother, wife and sister, are now strange sounds to his ear, and no longer productive of the emotions of love or tenderness, nor the perceptions of duty and mutual obligation.

Whence comes this dire infliction? Is it, as some well meaning theologians would persuade us, a chastisement on sinful man by the offended deity? If so, the awful penalty decreed in the law from the mount is here literally fulfilled—the sins of the fathers being visited on the children unto the third and fourth generation. But while we admit that every deviation from the natural law, that is, from those eternal principles of right, by which it was primarily decreed that man, both in his physical and moral nature, should be governed, brings with it necessarily and unavoidably its punishment; we are not called upon either as physiologists or as christians to believe that the penalty paid by individual suffering is an evidence of the immediate and direct vengeance of an angry creator. He is omnipresent and omnificient; not by special interference, but by the operation of those laws, to which he has willed that all created things shall, by their very nature, be subjected. In unorganized matter we are sensible of these being laws in full force in the phenomena of attraction, and the play of chemical affinities. In organized matter endowed with life, they are displayed in the phenomena of function. Since, therefore, we do not see in the convulsions of inanimate nature denominated earthquakes, volcanic eruptions, and tornadoes, a present miracle, nor the direct and visible interposition of the deity; why should we be called upon to acknowledge a supernatural agency in the violent and fatal changes to which living beings, especially those of our own species are subjected. It is not for us to pretend to expound the purposes of an all-seeing providence in these dire calamities. They are beyond our ken; nor is the question necessarily connected with our investigations, as finite beings, into the material cause and means of prevention and cure of physical and moral ills.

Insanity is not an evidence of any new principle or mysterious agency: it is a deviation from the usual order in which mental phenomena are usually presented to us, and is but an evidence of the changes in the combination of the elements and parts of the structure by which mind is manifested. Our inquiries into mental aberration can, therefore, only be predicated of a knowledge of the circumstances under which its common and sane operations are carried on.

Now experience teaches us, by the lights of anatomy and physiology, that a peculiarly organized structure, called brain, is the necessary material instrument for the performance of all the operations of the mind. This is a proposition so clear and definite, and corroborated by such a mass of demonstrative evidence, that it cannot be destroyed or obscured by the most ingenious sophistry or the cloudiest mystification. The conditions for the performance of the functions of the brain are the same as of every other organic apparatus of the animal economy, viz. integrity of structure, and suitable force and variety of impressions. Either of these conditions wanting, there ensues disturbed function. As a corollary it follows, that the susceptibility of a part to be disturbed in its function will be in the ratio of its liability to be altered in its intimate structure, and of the number and variety of impressions made on, that is to say, of stimuli applied to it. The brain happily, is not of such a tissue as to be readily disorganized: but it is the recipient and centre of every stimulation of the internal organs and external senses.

Connected with all parts of the body by a nervous chain consisting of the spinal marrow with its proper or lateral, and anterior or visceral nerves, the brain cannot fail to be impressed by the stimulus applied to any surface, whether internal or external. If the senses so called, and the respiratory and digestive ones be over excited, the brain receives the morbid impression by means of the nerves inserted in its lower portion or basis. Excessive calls on general sensibility and muscular movement are transmitted through the medium of the lateral or proper nerves of the spinal cord, which is itself directly continuous with the brain; whilst the changes taking place in the organs of assimilation—those subservient to the nutrition of the body—produce their effects through the channel of the great sympathetic, which, uniting all the organs of the chest and abdomen in the bonds of sympathy, is connected at intervals with the anterior part of the spinal marrow. This last division of radiated stimuli to the brain is not in common perceptible, otherwise than in confused sensations, the origin of which is, however, placed beyond all doubt in the hurried and violent changes of disease.

In addition to all these sources of stimulation of the brain, there is another, of a still more direct and potential character, in the blood sent to it from the heart. The supply of this fluid may be either in excess or defect, and prove the cause of disturbance, in the first case, by its rapid and unequal distribution or accumulation beyond just measure; and, in the second, by failing to furnish the necessary nutriment for the vigorous exercise of the cerebral as of all other organs of the body.

The quality of the blood circulating through the brain is another exceedingly important consideration for a right understanding of the functions of this organ. Hence we find them to be greatly modified according to the extent of the changes induced in this fluid by respiration; being of increased vigour from a supply of florid red, arterial blood, and slow and torpid if it be of a dark and venous nature. The immediate effects on the brain and mind of the inspiration of any of the deleterious gases fully illustrate this principle.

From this brief physiological proem we clearly infer, that whatever change, by excited or abnormal action, takes place on any part of the body, whether it be of sensation or motion, or nutrition, it is promptly felt in the brain. When now we come to consider the immense variety and intensity of appeals to the different external senses, the singular and often monstrous methods by which the grosser appetites are incessantly gratified, the irregularity and violence of muscular movement, in fine, the excessive excitement of all the organs of the body, our wonder is not so much that the brain receives such frequent shocks from remote parts, but that it is not a still greater sufferer.

Hitherto we have spoken of the organized mass within the cranium under the familiar name of brain, and as an unit; but in accordance with the more enlarged and accurate views of the physiologists of the present day, we must now state that it is not so much one organ as a congeries of organs, each of which, though sympathizing intimately with the others contiguous to it, has, nevertheless, its separate functions and distinct relations with other parts of the body. The medulla oblongata presides more immediately over the instinctive wants of the animal, as manifested through the different senses, and respiration and digestion. The quadrigeminal bodies govern the sense of vision. The cerebellum regulates the generative organs: it is by some thought to be also an exciter of the limbs, and more especially of the pelvic members, and to give them ability to a progressive movement, as in jumping. The optic beds convey the power of motion to the upper extremities, whilst the striated bodies are exciters of the lower ones. The hemispheres of the cerebrum are the special organs of the mind.

Here then are several classes of functions performed by the encephalon: some, as of nutrition, motion and general sensation, common to it and the spinal marrow; others, as of the particular senses, including the respiratory and digestive, and those of the mind, peculiar to it alone. This difference of function, according to the part of the encephalic mass excited, will prepare us for witnessing the great varieties in the extent of mental disturbance in what are called cerebral diseases. Thus the phenomena of epilepsy or apoplexy will vary according as the basis and the middle or upper lobes of the cerebrum are lesed; that is, according as the extent of the morbid alteration of the intellectual organs coincides with the changes in the parts which give general sensibility and locomotive power. The facts furnished by this method of inquiry, enable us also to detect the fallacy of those opinions which would inculcate that there is no necessary dependence between the brain and mind; because the former has been often found altered in structure after death, whilst the latter seemed to have been exhibited in its wonted vigour during life. The holders of such a creed were ignorant of the plurality of the cerebral organs and of the different functions which they affect.

But we have yet a step farther to take preparatory to our investigating the aberrations of thought and sentiment in insanity. It is to see whether there be not particular portions of the cerebral hemispheres destined for the performance of special functions—a difference in organic development corresponding with and accounting for innate differences of disposition, and aptitude for making intellectual effort and acquiring intellectual excellence. A similar course of experimental observation and induction to that which has been received as legitimate in the establishment of other points in physiology, justifies our admitting the affirmative of this proposition. The intellectual and affective faculties are each of them manifested by means of particular regions of the cerebral hemispheres; and each faculty again requires and possesses a subdivision of cerebral organization. The education of these faculties is not, we know by the concurrent testimony of all ages, to be attempted in the same way; nor are they strengthened simultaneously by similar means. Neither the extraordinary activity of an intellectual faculty nor the inordinate force of an affective one, affords an index, in the first case, of universal genius, nor in the latter of depravation of all the sentiments of our nature. The reason of these differences in mental capabilities is found in the difference in the cerebral organization or instruments of mind as pointed out by comparative physiology, and an attentive observation of the variety in the cerebral developments of the individuals composing our own species.

In the preceding remarks we have supplied what we conceive to be an omission on the part of the author, whose work we now proceed to examine. Had Dr Burrows laid down some clear physiological principles as the first of his Commentaries on Insanity, he would, we think, have been prevented from being occasionally in contradiction with himself in regard to argument, and have given a closer and more succinct narrative of facts than he has been pleased to favour us with. His readers would have understood both him and his subject better, and been saved a certain feeling of weariness at going over what, after all, must seem to them to be a transcript from his common place book, rather than a digest and arrangement of the existing knowledge of the nature and treatment of insanity.

As an instance of physiological vagueness, we give the following sentence from his introduction. "That the operations of the mind are wonderfully influenced by our corporeal movements cannot be doubted; and that the influence is reciprocal, so that when the former are disturbed the latter sympathise, is clear." As if the brain, the necessary instrument for performing the operations of the mind, were not itself a corporeal organ, and its action or function a corporeal movement. It is the more to be regretted that Dr Burrows gives into this mysticism towards the conclusion of a very sensible introduction, in which his object seems to have been to expose the obscurities in which the study of insanity has been involved by the vague metaphysics of the schools.

We do not express our regret without cause at the want of proper arrangement of the "Commentaries on Insanity." The author does indeed begin his inquiry by discussing the nature of causes, but he does not go sufficiently far back. The very first point on which, in this as in all other diseases, the physician desires to obtain correct information, is the extent of hereditary predisposition on the part of the patient. Now Dr Burrows postpones this question to the fourth commentary, making it come after Moral Causes, and Religion in reference to Insanity: and placing it in the second division of physical causes, of which "Physiological and Pathological Observations" constitute the first. Nor is he very happy in conveying to us any very clear notion of what is to be understood by hereditary predisposition. He says, "in certain constitutions peculiar modifications exist which are termed idiosyncrasies," instances of which he then furnishes, adding that these idiosyncrasies may descend through successive generations. Continuing his remarks he tells us, that "the gout is the inheritance of one, phthisis of another, apoplexy of a third, scrofula of a fourth, and so on; and these likewise may be propagated. All these peculiarities are predispositions." Here then, peculiar modifications are idiosyncrasies, which are transmissible; as gout, phthisis, &c., which are peculiarities; and these again are predispositions. All this partakes more of the nature of loose memoranda than of thought and reflexion: it may be passable in one's own common place book, but is hardly fit to be placed before the public eye. We believe that, of two persons with hereditary predispositions to the gout, one may have an idiosyncrasy, by which he abhors certain fruits or fish, which the other takes with great pleasure. The one, pending an attack of the disease, will have his pains greatly mitigated by the administration of opium; the other, from idiosyncrasy, cannot tolerate it in any form. Idiosyncrasy is therefore far from being identical with, or even bearing a close semblance to hereditary predisposition. The former is usually marked by peculiar and often unaccountable tastes and aversions, but which do not indicate a tendency to any particular disease; nor is it hereditary: the latter may allow of every gratification and variety of impression as far as the mere taste is concerned, but gives a proneness to one particular form of disease over every other. Again, a man, in consequence of idiosyncrasy, dislikes to eat an egg, for instance; or if he do so, it produces great pain and general uneasiness, which subside as soon as the offending matter is expelled from the alimentary canal. Another person will eat an egg with great relish, but after doing so will be seized with a fit of gout, to which he was hereditarily predisposed. A predisposition is both hereditary and acquired, and consists in the excessive susceptibility of an organ or apparatus to become diseased. Idiosyncrasy is always connate, and in it the excitability of an organ is not to every stimulus which is applied, but to some particular one, the effects of which *à priori* we should never have suspected.

Temperament, which is the expression to designate the predominance of particular organic systems, as of the sanguineous, nervous, lymphatic, &c. while it conveys the idea of a general predisposition in these systems respectively to be affected by stimuli and to take on disease, does not however give the measure of the predisposition of a particular organ. We can say in advance that a person of a sanguine temperament will be liable to a different series of morbid actions from one of a lymphatic temperament: but in both the brain or the liver, for example, may be prone to take on disease, in virtue of hereditary predisposition, depending on transmitted peculiarity of structural condition. Even the nervous temperament does not exhibit the characters, by which we can predict a greater tendency than usual to cerebral disturbance or insanity. Hence in our inquiries into hereditary predisposition, we must not look for its evidences in the general habit of body, but rather in the susceptibility of the particular organ. Of this last we can judge, partly by certain physiognomonical characters, and partly by the phenomena evinced in the discharge of the functions, and when the organ is under the influence of its appropriate stimuli. Thus, if we see a young person with a narrow chest and projecting shoulders, and inclined to stoop, and who readily coughs after muscular exertion by which the blood is accelerated in its passage through the lungs, or after any slight changes of temperature or atmospherical pressure, we infer that such a person is predisposed to pulmonary consumption. So we argue from the complexion, colour of the hair, and readiness with which glandular swellings are brought on by a cold and damp air, and irregularities in diet, that the individual so circumstanced is prone to scrofula. In both cases the risk of disease is greater, if the parents of these persons respectively have had consumption or scrofula. Hereditary predisposition to a disease is, after all, but the possession of an organization similar to that of the parent, and liability to the like aberration of function from excess of appropriate stimuli. Our fears are always proportioned to the resemblance in this respect which the offspring bear to the parent; and of course, the danger of transmission to the child is increased, if both father and mother have the same morbid peculiarities. Hence we find that a disease, whether it be scrofula, consumption, gout, cretinism, or insanity, may be perpetuated ad infinitum by intermarriage, or, according to the homely phrase of cattle breeders, as repeated by Dr Burrows, by breeding *in and in*.

We are not allowed to doubt of the brain being the part either imperfectly developed or morbidly excitable in a predisposition to insanity. Since the healthy functions of the brain require for their performance an organized material structure, the predisposition to diseased function must necessarily be sought for in vices of this structure, or in some deviation from its customary and average condition. This is the real question which we had a right to expect would have been stated and met by Dr Burrows, in his commentary on hereditary predisposition. We do not, at all events, well see how it can be placed under the head of physical causes, in the first division of which the author gives it a place. These, to our mind, convey the idea of the agents in external nature by which we are surrounded, and to the operation of which we are perpetually subjected—such are the *circumfusa*, or the various states of the atmosphere; the *ingesta*, or matters taken into the body for nutriment; the *applicata*, or substances applied to the surface for the purposes of clothing and protection from the elements, and for the enjoyments of the luxuries of bathing and frictions. But the direct agency of the brain or the sympathetic influence of the stomach, intestines, and liver, and heart, ought not to be enumerated as physical causes of insanity. These latter are extremely rare. The cases of the disease produced by blows, falls, sun stroke, undue compression and electricity, or other atmospherical states and extremes, true physical causes, bear but a very small proportion in number to those caused by the deranged physiological action of the organs.

Dr Burrows, in the commentary, to the title of which we have just stated our objections, lays down very properly the position, that the functions of the brain "appear to be subjected to the same general laws as the functions of other organs." He admits that the integrity of the brain, as the organ of what he is pleased to call the nervous system, is quite essential to the sound exercise of the external senses, of the feelings and voluntary powers: but he thinks that, as the organ of the intellectual functions, its integrity is not essential to their exercise. The brain—the organ of the nervous system! What singularly loose phraseology to substitute the term system, drawn from general anatomy, for function. But, waving this error of language, we have to reproach Dr Burrows for confounding together different functions, and speaking of them as all performed by a unit structure. The portion of the brain which gives the intellectual functions is not necessary to the exercise of the senses, feelings and voluntary powers; nor, *e converso*, is the part on which these latter depend required for the exercise of the former. Of course, while we are aware that extensive injuries of the brain have not been always attended by derangement of intellect, we are not by any means bound to admit that lesions of that part of it destined specifically for the performance of the mental functions can be injured without these latter suffering. Certainly Dr Burrows has heard of, or perchance seen, acephalous fœtuses with all the senses entire. He must be aware of the conservation of these senses in animals after the ablation of greater part of the cerebral hemispheres. He cannot be ignorant of the very different series of symptoms, as regards disturbance of the senses and the intellect, in arachnitis or encephalitis, according as the upper surface of the brain or its basis is interested in the disease.

At each step of our advance we become sensible of the serious omission by the author of a clear and succinct history of the encephalic functions. It is not enough to tell us what was the theory of Willis, and the physiological scepticism of Ferriar, or the various methods practised by anatomists for dissecting the brain. Dr Burrows ought to have brought to bear on his subject the large mass of experimental and pathological observations which within these few years have thrown so much light on the heretofore obscure offices performed by the several portions of the encephalo-spinal axis. He would not, in this case, have said, in reference to the opinions held by Gall and Spurzheim, that "the cranioscopal system seems founded on Galen's idea of the brain, amplified and extended by a fertile imagination." He might, as a man of letters, have known that this system was not denominated phrenology by Mr G. Combe of Edinburgh, until after the appearance of Spurzheim's work, bearing this very title*. We are unable to see the force of his interrogatory, which he proposes as the solution of a difficulty started by the phrenologists. "But can any comparison," says Dr B., "be endured between the divine immaterial functions of the brain and the palpable material functions of other parts of the human body?" The anecdote told in a note, and beginning "When Dr Gall was in this country," (England) may be reasonably doubted, until the narrator will take the trouble of telling us *when* Dr Gall was in England.

The main question again recurs. Is there any peculiarity in the brain, either as regards intimate structure or development, of which we can predicate a belief of a predisposition to insanity?

That a deficient development, as when the anterior portion of the cerebral hemispheres is nearly wanting, is a cause of connate deficiency of intellect, or idiocy, is a familiar fact: and that a morbid growth of these cerebral regions, as in the scrofulous diathesis, though at first productive of mental activity, is, when it persists, attended by enfeebled mental functions, is also well known. We may, independent of other modes of demonstration, safely be allowed to infer that if the faculties are wanting, or at their minimum of activity in consequence of defective development of the organ and are enfeebled by its morbid growth, their irregular and unequal display, constituting mental aberration, must be necessarily the result of some alteration or lesion of the intimate structure of the organ. It is a pathological deduction following irresistibly from the physiological premises. It does not, however, by any means follow that there is a formation and peculiar organization of brain indicative and causative of insanity. This would be saying that the faculties of the mind are a unit in health, and affected in a uniform and invariable manner in disease; whereas, we know that, as they are numerous and independent of each other in the former state, so may one of them alone be so disturbed as to constitute mental aberration, and without of course there being any lesion or alteration in the cerebrum, except in the minute portion destined for the performance of this particular faculty. An oversight of this fact led PINEL into the error of supposing that he had confuted GALL and SPURZHEIM, when he showed, by the measurements and proportionate developments of a large number of heads, that there was no characteristic cerebral or cranial configuration indicative of predisposition to insanity. But the real question is, whether the faculties of the mind, so numerous and diversified as we know them to be, have not each a specific allotment of a portion of the cerebrum as a necessary material instrument, on the integrity of which depends its soundness? This is declared for affirmatively by the phrenologists. Dr BURROWS takes the opposite ground; but, in place of vague reasoning against their belief, he might, we should think, have given us the results of his own experience in this highly important particular. He fails to do so in a single instance, and cannot in consequence be cited by those who come after him as any authority in this vexed question. Had he studied the work of the learned Florentine physician CHIARUGI, he would probably, encouraged by such a precedent, have given us a commentary of a more practical and strictly philosophic bearing than that which elicits our present strictures. He would have seen something else in the cranioscopal system than its seeming foundation "on GALEN's idea of the brain, amplified and extended by a fertile imagination." After speaking of the difference in the activity of the brain during the sleeping and waking states, CHIARUGI* points out the greater degree of susceptibility possessed by one part of this organ over another. When the individual is about falling asleep or awaking, the portion of the brain, connected with the sense of sight for example, becomes quiescent before that of the other which is in connexion with hearing, and so on of other portions. He explains the occurrence of dreams, which he says are but temporary deliria, by supposing that a particular part of the cerebral structure is in a state of re-action under external impressions, and he might have added of visceral stimulation, whereby a train of ideas often irregular and extravagant is formed, without its being possible for them to acquire support and consistency from the rest of the brain which is still in the collapse of true sleep. If all parts of the brain be equally fatigued and quiescent, the individual enjoys sound sleep, and either does not dream at all, or has only a faint recollection of some confused sensations. So when the brain, during the waking state, has its due susceptibility throughout to impressions, the operations of the mind are regular and consistent; but if there be inequality in the former condition there ensues disturbance in the latter, such as delirium and insanity. But the inequalities in the susceptibility of the brain may result either from deficiency of organization or differences of intimate structure among its several parts. One or other of these two conditions constitutes the proximate cause of insanity; and it is their inheritance which gives rise to hereditary predisposition. Both may be regarded as congenital, and opposed to the common and adventitious changes taking place in the brain, whether from excessive functional exercise or transmitted irritation.

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* Observations sur la Phrænologie. Paris, 1818.

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* Sulla Pazzia, 2nda Ediz. Firenze, 1808.

The congenital deficiency of intellect constituting idiocy is characterized by an extraordinary formation of head; usually an evident depression or flattening, and narrowness of the cranium at its anterior part, and correspondent absence of cerebral structure beneath. Chiarugi, in the work already cited, Vol. I. p. 80, says, that agreeably to the larger number of observations, those persons are most disposed to insanity the surface of whose cranium exhibits extraordinary inequalities; since for every elevation and depression of bone there is a corresponding excess or deficiency of brain, and hence it is not surprising that an individual so circumstanced should differ from others in the enjoyment of the mental functions, either as regards their power or weakness. This author, after next stating some objection to the cranioscopal part of Gall's system, and admitting that some men with notable depressions of a part of the skull have displayed sound minds and right judgment, avers, as the result of numerous observations which he has made, that congenital depressions in the central part of the frontal bone and at the anterior angles of the corresponding parietals, enfeeble and even destroy the imaginative power. Many crazed persons from birth, exhibited no other change than a notable flattening of the posterior part of the occipital bone or of one side of the cranium. A cranium entirely disproportioned by its smallness to the rest of the body, flattened at the vertex and temples, or even at the occipital protuberance is commonly met with in the Cretins of Switzerland, who are congenital idiots; and for this very reason incapable of cure.

There is a conformation of head which must have frequently been presented to hospital physicians, and the peculiarity of which has probably led to the same conclusions in all. It consists in a large circumference at the base, going from the supra-orbitar region round in a line behind the ears to the lower part of the occipital bone; with a retreating and narrow forehead and some flattening of the parietals: the elevation of the head is generally inconsiderable. The expression of countenance of the persons with this imperfect cerebral development, would of itself sufficiently indicate their limited mental endowments. Easily led by those around them, they often give into habits of intemperance, become victims to epilepsy, and end their days in an alms-house, in a state of fatuity.

Morbid development of the brain, like hypertrophy of any other organ, is incompatible with the regular and equable performance of its functions. Though this is rarely a congenital state, we are justified in considering a very voluminous brain in a sanguineo-lymphatic temperament (especially if these particulars distinguished the parent) and with evidences of a scrofulous diathesis as predisposing hereditarily to mental derangement. Individuals thus organized usually display great precocity of intellect; but in proportion as the growth of the brain becomes so rapid as evidently to be a part of the scrofulous disease which affects at the same time the bones and joints, there is exhaustion of mental powers running into idiocy, or, if the subject have arrived at the ages of adolescence and manhood, he is seized with insanity. Dr Burrows avers, that "scrofula frequently extends to the brain and then incurable insanity commonly follows."

It will not we think, after what has been laid before our readers, be deemed a forced inference to believe, since a deficiency of certain portions of the cerebral mass is the cause of mental imbecility;

and a morbid growth of the entire brain is at first productive of mental excitation followed by feebleness, that an unusual development of one part of the brain over another will be accompanied by partial energy of mental manifestation and tendency to disease of a specific function. Illustrative of this point is the remark of CHIARUGI*, that as insanity is often seen to prevail through whole families and even observed to extend to several generations, it is also unquestionably true that a similar conformation of brain is at times observed between parent and children. It is very natural to suppose that, even where the excessive excitement of a particular part of the brain is not kept up by continued indulgence of its corresponding faculty, this latter may still fall into disease, as a consequence of transmitted irritation from other internal organs, which, *cæteris paribus*, will be most felt by that portion of the brain most developed.

Certain it is that where some feelings of the mind are very active, the individuals possessing and indulging them are apt to become insane in these feelings; just as great geniuses are liable to insanity from excessive activity and indulgence of their distinguishing intellectual faculty. Now as the disturbance in either case is to be sought for in the brain, and not in all parts of it indiscriminately, we are allowed to believe that attentive examination would point out its cause in the undue development of a particular part. The question is not one of mere speculation: it is worthy of being tested by experimental observations attentively made and greatly multiplied. ESQUIROL is among the few who has taken any pains on this subject: he has made a large collection of skulls and casts of the heads of insane persons. In reply to the insinuation that these are adverse to the phrenological opinions of GALL and SPURZHEIM, as above adverted to, the latter assures us that both his colleague and himself had carefully inspected this collection, and found nothing in it incompatible with the principles which he was inculcating in his work†. Nature is not in contradiction with herself in different hospitals; and whoever, continues SPURZHEIM, is desirous of disproving our observations must not do it by gratuitous suppositions of his own.

Another cause of hereditary predisposition in the brain to be disordered in function which shall end in insanity, will be found in its intimate structure in regard to laxity or firmness of fibre. Varieties in this respect, must, by the analogies of the functional exercise of all the other organs of the body, be attended with marked effect in that of the brain. In the absence of direct external evidences of this state in the cerebral structure itself, we must look to those of an indirect nature, furnished by the rest of the body; as where we find predisposition to general dropsical effusion, or a scrofulous or gouty diathesis. The impressibility of the external senses or the extracranial nervous apparatus, will also serve to guide us in our inquiry into that of the internal cerebral senses, or the intra-cranial nervous apparatus.

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* Op. Cit. Vol. I. p. 69, 70.

† On Insanity. We borrow at this moment from the French copy "*Sur la Folie.*" Paris, 1818.

If with a similar cerebral configuration the offspring inherit the temperament of the insane parent, so as to induce us to believe in the similarity of nervous fibre in the two cases, we cannot hesitate to affirm, that the predisposition to insanity is much increased, and requires but slight exciting causes to call it into full display.

The importance of ascertaining the force of hereditary predisposition by means of external, palpable, and evident signs, in order the more carefully and persistently to withhold all the occasional or exciting causes, must plead our justification for attempting to fill up the omissions of Dr Burrows in this respect. Reinforced by such knowledge, we might go a step farther, and not merely rest satisfied in withholding noxious causes, but more carefully educate opposing predispositions, or faculties of a tendency adverse to those, whose diseases we have most to fear. The author himself gives us argument for the urgency of our duty in this particular, when he says, "I have seen several instances of insanity developed at the early age of thirteen and fourteen, where there was no possible exciting cause but constitutional predisposition." Here, however, we must suppose Dr B. to have meant to say, no *known* possible exciting cause. As to the actual possibility, can we not conceive of it in the particular states of the cerebral functions themselves, as of anxious fear, or envy, or of the prematurely excited state, by unnatural means, of the genital organs, or of the not very evident irritation of the intestinal canal, or suppressed excretions, as of sweat.

Constitutional predisposition cannot be, as the author would intimate, an exciting cause, any more than inclination in morals can ever be deemed action. If it were otherwise we should be forced to believe, that the conditions being the same from birth, the coming on of insanity is purely accidental and without cause. He goes on to say, " Derangement of the mental faculties is not to be expected before those faculties are sufficiently developed, which synthetically constitute a perfect mind; but if deranged as soon as the mind has attained perfection, and without any exciting moral or physical cause, a pure hereditary origin is strongly indicated." Nothing but the most lamentable oversight of the physiology of the brain, the only foundation of a rational system of mental philosophy, could have betrayed Dr B. into such vagueness of expressions and erroneous opinions. What a singular time to propose to his readers as that in which the mental faculties become deranged—" as soon as the mind has attained perfection!" If we are to understand, and there is no alternative, by development of the mental faculties, an increase and variety of power consequent on the growth and vigour of the brain, we can then conceive how a later evolution of some parts of this organ may bring fresh excitement to its former functional efforts, and so far disturb the former balance as to cause insanity. But in this view of the subject we cannot deny the existence of a physical cause, viz. augmented development of a particular part of the brain; nor of a moral cause, in the augmented energy of function, whether of sentiment or intellect of this part.

The early evidences of hereditary predisposition to insanity, are often seen in what are called eccentricities of opinion and conduct. " There must," says Dr Burrows, " be some obliquity in the perception and judgment of such persons, for they certainly do not perceive the difference between themselves and the commonalty. Many of these eccentricities or singularities, however, if unnoticed and unchecked, grow stronger with time and ripen into perfect insanity." What a momentous lesson is here indirectly addressed to blindly indulgent parents, and negligent guardians and friends. The danger from hereditary predisposition is greater, says Esquirol, in proportion as the vicious disposition is less repressed at an early period. This physician, by close attention to the external signs manifested in the look, gestures and conduct, foretold the coming on of the disease two years before its actual invasion.

Spurzheim, with great probability of truth, thinks that insanity is of rare occurrence in children, on account of their very delicate cerebral organization, which prevents its inducing a violent disease, without the entire loss of the faculties of the mind or danger of death. The cerebral affections of infantile subjects always appear under the form of acute disease, promptly altering the organization;

and are accompanied by fever, delirium, or a total suppression of all the moral and intellectual faculties. In proportion as the brain becomes firmer in structure, it bears for a longer time continued morbid impressions, without an entire obliteration of function in death. The effects of protracted stimulation are partial functional derangement, or insanity.

Of the influence of hereditary predisposition in rendering persons liable to insanity, we may form some idea from the melancholy experience of Dr Burrows. He clearly ascertained that this condition existed in six-sevenths of the whole of his patients.

Hereditary insanity is more common among the higher than the lower ranks, on account of the former individuals more frequently intermarrying. The smaller the circle of alliances, the more the tendency to insanity is increased; hence the frequency of the disease among royal and crowned personages, and the members of a particular family who, for the preservation of wealth, or to keep up aristocratic title and influence, contract marriage with each other. Examples are numerous, according to Dr Burrows, in ancient Scottish families, and insanity is more common in Scotland than in any other country. So likewise, he continues, in all nations or sects, whose civil or religious institutes enforce intermarriage. The Jews have preserved themselves most free from intermixture with strangers, and are in consequence, most subject to become victims of insanity. One of the youngest insane patients that the author ever had under his care belonged to a respectable Jewish family: his father and mother were insane, and his six brothers and sisters became like himself deranged as they arrived at the age of puberty. Insanity among the Society of Friends, who usually intermarry in their own fraternity, is very prevalent.

Esquirol, in his lectures, used to relate numerous examples of the prevalence of insanity in particular families, as illustrative of hereditary predisposition. A family near Nantz, consisting of seven persons, were all insane. Another, in Brittany, were in the same state. Sometimes the insane in the same family sink under the same diseases as dropsy. He asserts that the frequency of transmission is a third greater by the mother than by the father; and that the character of the delirium is transmitted from generation to generation. Dr Burrows avers, however, that one type only of mental derangement can be said to propagate itself: the propensity to suicide often preserves a marked singleness of character through successive generations and large families. Esquirol cites the case of six persons of a family, all of whom, except one, destroyed themselves.

It is hardly necessary to add, that the chances of inheritance of this insane, as well as of any other morbid predisposition, are increased by both parents having been subject to insanity; and what may also be understood without our expressly stating it, hereditary predisposition does not necessarily imply the evolution of insanity throughout a long life. The danger in such a case is, however, greater, and the rules of hygieine and the maxims of morality and religion ought to be more rigidly observed than usual.

It is stated by Dr Burrows, as the natural converse of what we have just laid down respecting the propagation of the disease, that "insanity, doubtless, may be so modified by intermarriages with stocks exempt from it, that progressively it wears out; otherwise all the world, ere now, would have become mad." The application of these important truths may and ought to be frequently made in forming alliances; but while it is a duty of the physician to enlighten his friends and patients on this topic, he must beware how he indiscreetly or unnecessarily enforces it, so as to give causeless alarm, and wound the feelings of the parties concerned.

It is generally admitted, as well by the author of the work before us, as by Esquirol, and many other highly respectable authorities, that one generation in a family may escape insanity, and yet their immediate descendants be afflicted with it, in a manner similar to that under which their progenitors had suffered.

The opinion of Dr Burrows, that hereditary insanity may be as successfully treated as when it arises from an accidental cause, is not, we believe, sustained by the experience of his contemporaries, or of preceding physicians. He complains, in this part of his subject, of the studied silence preserved by the other members of the family of a person insane by inheritance: they not only often conceal, but actually deny that the patient has any predisposition to the disease. He also states, and we fear too truly, that a knowledge or suspicion of such inheritance, so far from inducing caution, seems to lead to more than usual indifference to prudential considerations. As far as relates to the individual himself, we cannot but regard this carelessness as effect and evidence of the incipient morbid condition of his mental faculties. The negligence of his friends is more inscrutable, unless we refer it to the fears of their wounded vanity, in acknowledging the weakness of any of their kin.

Dr Burrows says very little of acquired predisposition. This consists in whatever habitually exercises in excess the mental faculties, or subjects them to alternations of inordinate action and entire repose. The causes of this state are a vicious education, in which the lower propensities of our nature are not checked in their dangerous exuberance, by an exercise of the more social and moral qualities; great intellectual efforts in a particular or exclusive channel, as where the attention dwells necessarily on a small number of ideas, whether they be metaphysical and speculative, scientific, religious, moral or political; hazardous undertakings of whatever nature which keep up a continual agitation and uneasiness, and which are always, whether successful or not, productive of powerful emotions; events which strongly excite public curiosity, commotions which agitate the minds and exalt the passions of a whole nation. Hence all revolutions, either political or religious, and important discoveries, have given rise to a great number of insanities*. In the Parisian establishments for the reception of the insane, it would not be difficult, says Esquirol, to find examples of persons who have become so after every political change or great shock of public sentiment, from the beginning of the revolution in 1789 down to the assassination of the Duke of Berry, in 1820.

After investigating the nature of predisposition, especially that of an hereditary nature, the next branch of inquiry is into those causes of insanity which consist in an excessive or irregular action of the cerebral organs. These are usually called moral causes, and are erroneously contrasted with corporeal ones: since they imply nothing more than a primary disorder of the cerebral functions; such as intellect and sentiment.

The neglect to announce this primary principle in the study of the moral causes of insanity diminishes greatly the value of Dr Burrows's commentary on this subject, and the first in order of his work. His observations on the sentiments and passions of our nature are remarkable neither for novelty nor research.

We find considerable discrepancy of opinion to prevail respecting the influence which moral causes exert in the production of insanity. Georget broadly asserts that the causes which tend to derange the organization of the brain by the very exercise of its functions are the most frequent, one might say the only ones capable of producing mental alienation. The returns of this disease, as given by PINEL, ESQUIROL, TUCK, and others, confirm this view. Out of a hundred insane persons, GEORGET is convinced that ninety-five have become so from inordinate affections and moral commotions. The author of the Commentaries, extensive as he conceives the influence of moral causes to be in the production of insanity, cannot assign to it so wide a scope as the above. The majority of cases originate, he thinks, in direct physical causes, which the privations and consequent misery the poor suffer in all countries, as well as their vices, greatly multiply.

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* Georget *De la Folie*, p. 155. Rush. *On the Mind.*

The correct solution of this question demands what few writers take the trouble of ascertaining, viz. a prior knowledge of the number and modifications of the innate faculties of the mind, and of the groups or classes into which they may be usefully cast. Of these, we may enumerate, as of a lower order, sexual and parental love, fondness for strife and battle, cunning—propensities possessed to a certain extent by the lower animals in common with man: self-esteem, love of approbation, persistency of feeling and purpose, circumspection, veneration for a Creator, belief in mysterious agencies, benevolence, ideality, are sentiments for the most part peculiar to our nature; as are the guiding faculties of intellect, by which genius soothes the senses in the creations of music, painting, sculpture and architecture, or excels in the combinations of number and forms, the memories of places and events, copiousness of language and diction, or leads away in the long chain of causation and illustrative comparison. What a list of moral causes is opened to our view in the abnormal action of these different faculties of the mind! The first evidence of cerebral irregularity is often met with in the disturbances of other viscera; and to those as physical causes is the evolution of insanity often referred. The ungovernable indulgence of particular appetites, which are often designated as causes of the malady, ought in truth, says ESQUIROL, to be considered as its first effects—as, for instance, the excessive desire for sexual indulgence and for drinking intoxicating liquors. Love crossed, or even friendships suddenly abandoned, will operate on females as causes of obstructed menstruation, which, as often long preceding the explosion of the maniacal paroxysms, may, by common observers and even careful physicians, be regarded as the physiological cause of the mental disorder. It is very doubtful whether, as Dr BURROWS would persuade us, the rich are more peculiarly affected than the poor by moral causes—that is, by the irregular and excessive excitement of the cerebral functions. If luxury and the vices of refinement, as more peculiar to the rich, more readily disturb the nervous system, education and the check which public opinion puts on excessive indulgence in the extremes of passion, will be countervailing causes, which the naturally powerful innate affections and sentiments of the mind are not subjected to in the case of the poor. The ravings or deep melancholy of blighted love, the inflation of pride and the frivolous displays of vanity, the incoherent outpourings or mystic musings of religious enthusiasm, are as much the appanage of the insane poor as of the insane rich. Drunkenness, that vice so common to the former, is not unfrequently a habit acquired by persons in all ranks of society, from a desire to conceal from themselves ambition thwarted or the wounds of self-love.

If the sentiments of the mind be deeply interested in conjunction with great exercise of the intellectual faculties, so that two series of cerebral organs are in simultaneous excitement, the probabilities of insanity being brought on are increased. Hence the followers of certain professions, such as priests, poets, lawyers, actors, musicians, painters and sculptors are more disposed to insanity than mathematicians and the cultivators of natural history.

Many authors tell us that insanity is a disease not met with in the savage state. RUSH has been cited as asserting that it is unknown among the Indians of North America; and HUMBOLDT tells us that he never saw an instance in those of the southern continent. We are still inclined, however, to coincide in opinion with Dr BURROWS on this point, when he says, "But the more remote and savage, the less likely are the natural habits to be ascertained; and hence I suspect some fallacy in this conclusion."

The passions of barbarians, he continues, are always strong and sometimes furious; and must evince that their affections are violent. Their organization is the same as the more civilized; and when such people become contaminated by association, they contract the same diseases. Why, therefore, should it be imagined that savages never go mad? He then instances the natives of Hindostan, as very prone to insanity, notwithstanding their temperate diet, and the control which they exercise over their passions. As an ancient race, however, and divided into castes, the members of each of which intermarry, hereditary predisposition must be taken into consideration. Dr JAMES, in his account of the first expedition under Major **Long** to the Rocky Mountains, says that insanity is unknown among the Indians of the Missouri. But Mr **Keating**, in his narrative of the second expedition of the Major to the source of the St Peter's River, mentions, among other particulars relating to the powerful tribe of Sioux or Dacotas, that hypochondriasis and suicide are very common, the latter especially so among the women. Hysteria is also known. We cannot suppose them strangers to the more marked forms of insanity, since on the authority of this last writer, they sometimes imitate the disease for the accomplishment of particular purposes.

In reference to the different emotions of the mind, as causes of insanity, Dr **Burrows** says that

> "Joy is more likely to occasion sudden insanity than grief, because the former cannot, like the latter, find relief in tears; and tears are the natural solution of cerebral congestion and excitation.
>
> "Sudden transitions from joy to grief occasion the greatest shock to the feelings, and produce the most durable effects on the mind."

He has met with but two instances of mental derangement from excessive joy.

> "Actual losses or disappointments in pecuniary speculations do not appear to occasion insanity so frequently as unexpected or immense wealth. In the six months succeeding the extensive failures, and consequent distress, of the winter of 1825—6 in this metropolis (London), there were fewer returns of insane persons in the London district than in any corresponding period for many years past."

The effects exerted on the different viscera by particular states of the mind, that is, by the functional exercise of different parts of the brain, are stated as follows:

> "Desire produces an increase of the seminal secretion; the smell, or even the expectation of savoury food, excites the salivary glands; maternal feeling, the secretion of milk; and dislike, both in the human and brute creation, prevents the flow of it; fear incites the intestines, kidneys and skin, by diarrhœa, incontinence of urine and sweat; grief, the stomach and lachrymal ducts; anger, the liver; terror, the nerves, inducing palsy; extreme hope, the respiration."

We do not approve of the explanation of the modus operandi of fear: it is not by inciting the cavities above mentioned, but by relaxing the sphincters that the evacuations are brought about. Sweat we may presume results from a similar absence of the contractility of the cutaneous tissue.

> "The spontaneous separation of warts by what is termed charming them, is an instance of the influence of the mind on the body.

"The rapid change of the natural colour of the hair to white is another instance.

"Change of temperature of the body is produced by the passions: lust increases heat, aversion or fear occasions cold.

"The mental affection known as nostalgia, or an intense desire to return to one's native country, is a disease purely arising from a moral source; but it produces a positive organic lesion, for Avenburger says, that on dissecting the bodies of those who have died of it, the lungs are always found adhering firmly to the pleura," &c.

Corvisart, the author informs us, describes a mental affection which he terms "infant jealousy," and gives all its attendant symptoms, as witnessed by him in the case of a girl about three years old. She recovered in consequence of his discovering the real nature of the case.

The second commentary is entitled "Religion in reference to Insanity." This is in strictness but a continuation of the inquiry into the effects of moral causes. Dr Burrows begins by very appropriately remarking that the extraneous opinions, as matters of faith, which have been introduced into this question, have very generally prevented a due investigation of its real nature; or have been the cause, to make use of his own idiom, why "due inquiry has been deterred."

"It has been with some a favourite hypothesis, that insanity frequently originates in the theological tenets peculiar to certain sects: and that persons professing a form of devotion free from controversial intricacies, and therefore such as might be comprehended by the plainest understanding, as for instance, that of the Quakers, would be entirely exonerated from this severe affliction.

"If any description of Christians could be supposed to be so favoured, well knowing that all functional derangements are principally excited by the vices and passions of mankind, we might naturally expect it would be the fraternity of Friends, since theirs is a profession of pure morality, of which their lives, commonly, present a consistent illustration. But Tuke's description of the Quakers' Retreat for Lunatics, near York, proves that such an inference is a complete sophism*. The avowal of this fact has confounded those who believed that insanity consisted in a 'mind diseased;' and has at once levelled those beautiful abstract theories in which they had indulged; and brought them to confess that between mind and matter there is a connexion and reciprocal action:

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* "The diseases which afflict mankind are chiefly and rightly ascribed to the indulgence of vicious passions; and therefore the moralist assumes that the Quakers must be less liable to corporeal ailments. This may be true in the abstract. But as they almost always intermarry with each other, on this account the proportion of all hereditary affections, among which is insanity, will be found greater in their community than in the population at large. Mr Tuke informed me that he computed *one* in two hundred of the society of Friends became deranged."

> 'One touch of nature makes the whole world kin.'

And although some individuals, from a more perfect organization, education, habit, or less exposure to risk, will enjoy greater freedom from disease; yet, be the precepts and practice ever so perfect, no community of persons can be exempt from the infirmities of mortality. All that can be conceded to superior morality, and of this truth I am fully persuaded, is, that the fewest lunatics in all communities will be found among the truly virtuous."

In regard to the time and mode in which religious exaltation and theological discussion give rise to insanity, Dr B. assures us that the critical period is that of doubt as to the orthodoxy of the doctrine professed, and that aberration is usually developed during the transition from their original to a new faith.

"Were I," says the author, "to allege one cause which I thought was operating with more force than another to increase the victims of insanity, I should pronounce, that it was the overweening zeal with which it is attempted to impress on youth the subtle distinctions of theology, and an unrelenting devotion to a dubious doctrine. I have seen so many melancholy cases of young and excellently disposed persons of respectable families deranged from either ill suited or ill timed religious communication, that I cannot avoid impugning such conduct as an infatuation, which, as long as persevered in, will be a fruitful source of moral evil. The old Romans knew human nature better: they had a law which forbade any person entering upon the sacerdotal office before the age of fifty. This was to prevent theological discussions before an age sufficiently mature was attained. If such studies were likely to disturb a Roman of mature age, we may judge the probable influence on a modern of fifteen or twenty. Seriously, this practice is an alarming error: it is growing to an excess fatal to the preservation of intellectual sanity, and, in a manner, especially dangerous to the rising generation."

The author enriches this commentary with the histories of cases illustrative of the correctness of the above views. Whilst however he accuses other writers with not adverting "to that particular state to which the perceptive and reasoning powers are brought, before religion ever induces derangement," he is himself, we think, amenable to a similar charge.

The different manner in which men are impressed by the mysteries and dogmas of religion, is not dependent on the mere novelty of view inculcated, nor on the enthusiasm alone, nor on the capacity alone of the individual. The instinctive feeling of veneration for a Creator, and the sublime doctrine of religion, or an innate proneness to yield to all that is mysterious about it, constituting what some would call faith in the first case and superstition in the second, bear no assignable proportion to the intellectual faculties by which men weigh and ponder on its different bearings, like so many propositions demanded for the elucidation of a grand problem. The gloomy fanatic may be ignorant or intelligent, without the peculiar colouring of his character being essentially altered. So, on the other hand, a weak intellect may take up for a season a study of religious controversies, and then retire from it with no other particular effect than temporary fatigue from the effort. A vigorous intellect again will occasionally be found to engage in a discussion of the most profound and elaborate views, entertained on the subject in its most complex bearings, without religious insanity resulting; even though the faculties may for a time have been bewildered by their intense exercise, provided the sentiments be not morbidly excited.

The aliment, therefore, or incentive to religious travail, is in the instinctive or innate sentiment of veneration, which, if powerfully operated on, may lead to great enthusiasm and devotion to the cause; but it is only when the intellectual faculties are continually urged by it to toilsome and painful exertion of their powers that insanity is to be feared. When it does show itself, the character of the hallucination will greatly depend on the energy of the innate sentiment impelling to religious faith and adoration. Even where religion has not proved the exciting cause of mental aberration, we may be prepared for a morbid display of this sentiment, which though active before is now unrestrained by the other faculties, and riots in all its instinctive suggestions.

We might illustrate in the same way the operation of other sentiments, such as pride and vanity, on the purely intellectual faculties, impelling them to exertions far beyond their strength, and which end in insanity. The display of the sentiments alone in the common actions of life, though offensive, would never have been deemed so excessive as to be thought indicative of insanity. It is only when, for the sake of winning applause, or to gratify self love, the intellectual faculties are attempted to be tasked to the displays of real genius, for which by nature they are too feeble, that reason totters on her throne, and the mind is in a state of true derangement. PINEL, in his most valuable work on insanity*, furnishes striking examples of the influence exerted by pride and vanity over the intellectual faculties, which we regret our want of space forbids us from transcribing on the present occasion. We wish most devoutly, that Dr BURROWS had been more thoroughly imbued with the principles and knowledge displayed by this illustrious Frenchman. His work would then have been shorter indeed, but written in a terser style, and composed of more connected arguments and definite views.

It is his praise to have collected numerous facts; and the medical statistics scattered throughout the book are valuable. To these we propose adverting on a future occasion. We shall then pass in review the sympathetic irritations of the brain from disturbances of other organs, which, following the full exposition that we deemed it our duty to give of the real cause and nature of the proper functional derangements of this part, divested of mysticism and metaphysical cant, will, we hope, prepare our readers for a right understanding of the varieties of insanity, and its most appropriate moral and medical treatment.

[To be continued.]

ARTICLE XII.—*Researches into the Causes, Nature, and Treatment of the more Prevalent Diseases of India, and of Warm Climates generally. Illustrated with Cases, Post Mortem Examinations, and numerous Coloured Engravings of Morbid Structures. By* JAMES ANNESLEY, *Esq. of the Madras Medical Establishment. Late Surgeon to the Madras General Hospital, &c. Two volumes, quarto. London*, 1828. *Pp.* 1395.

The splendid work which we propose to bring under the notice of our readers in the present article, is the result of the medical observations of the author, made, during twenty-five years' practice, in almost every part of India. It is indeed a performance, highly creditable to the distinguished army physician who has given it to the world, evincing, as it does, great industry in the collection of facts, the habit of close observation, and the true spirit of medical philosophy.

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* Sur l'Alienation Mentale.

The first volume is divided into three books, which severally treat, the first, of the digestive and assimilating functions, of the chief causes of disease in warm climates, and of the premonitory symptoms of intertropical diseases; the second, of the diseases of the stomach most prevalent in India; and the third, of the diseases of the liver and the biliary apparatus. Under the title of digestive and assimilating functions, the processes of mastication and digestion, and the functions of the liver, pancreas, spleen, and intestines, are discussed, as occurring in their healthy state, as a preliminary consideration to their pathology. The chief causes of disease in warm climates are then considered, under the several heads of soil, situation, vegetation, seasons, &c., and illustrated by a separate account of the climate of the principal districts of India. The first book then closes with an important chapter on the premonitory symptoms of intertropical diseases.

As our limits will not permit us to give a full analysis of so voluminous a work as that before us, we shall pass over this portion of the author's labours without further notice; in order that the space we have at command may be occupied with the more practical parts.

In the second book, on the diseases of the stomach most prevalent in India, the author does not profess to give a complete treatise, but to speak of " those considerations which are most important to be attended to, as respects both the nature and treatment of those ailments, and of the consequences which frequently arise out of them, more particularly under circumstances of neglect or mismanagement."

The author first considers the more frequent forms of indigestion within the tropics, and traces their origin and progress in a clear and satisfactory manner. The feeling of oppression and distention, after a full meal, which in temperate climates sometimes exists for years without giving rise to decided disease, produces, in warm climates, serious disorder in a much shorter time. The diminished action of the stomach creates a corresponding state of the bowels and liver; and hence costiveness and a torpid state of this viscus generally accompany the early symptoms of indigestion. As the disease progresses the uniform costive state is exchanged for an alternate confined and relaxed condition of the bowels. The stools are generally dark and very offensive, and sometimes of a greenish-brown colour, and acidulous odour. Occasionally, they are pale, often clayey, and, when broken down, exhibit a variegated appearance.

The author considers it quite certain, that the biliary functions and the constitution of the bile become early disordered in the indigestion of warm climates; but he deems it by no means a fair conclusion, that the indigestion, and disorder of the liver, are in the relation of cause and effect. On the contrary, he considers it more reasonable to suppose that the peculiar morbid influence of a high temperature, indolence, excessive and improper feeding, may act contemporaneously on the stomach and liver; so as to make it impossible to decide which is the primary affection.

The alternation of a confined and relaxed state of the bowels becomes more marked as the disease advances. After a period of costiveness, of greater or less duration, the discharges will become loose and frequent, consisting almost entirely of bile, which stimulates the rectum, so as to produce smarting and tenesmus. These occurrences evidently depend, as the author justly remarks, on a reaction occurring in the liver, from the irritation of its pent-up secretions, in consequence of which they are suddenly discharged, and produce a temporary bilious diarrhœa.

The author next speaks of cases of indigestion accompanied by nausea, and makes the following remarks :—

> "In those cases of indigestion which are attended with loss of appetite and occasional nausea, although the patient becomes sooner alarmed, and the pathological condition may be more important than in such cases as are attended with undue appetite and frequent craving for food, yet the disorder is often sooner removed. For where there is loss of appetite and nausea, there is usually much mental apprehension; hence the patient sooner seeks assistance, and more closely abides by the advice given him. Food, also, being but sparingly indulged in, and that which is taken under such circumstances being generally of a mild quality, the disorder is not perpetuated by indulgence in its chief cause, nor are the functions of the liver and bowels deranged by unduly concocted chyme, and by the irritating materials formed from undigested aliment. When nausea, however, is a symptom of dyspepsia, and still more especially if the nausea is productive of retching and vomiting, the practitioner should then be watchful, and take care to examine fully into the state of the patient. The pulse should receive attention; for if it be quicker than natural, independently of the influence of retch-

ing upon it; if there be pain at the stomach or right hypochondrium, either upon pressure or without it, then the following pathological states are to be dreaded,—namely, the indigestion has gone on to produce an inflammatory state of the mucous coat of the stomach, or to occasion inflammation about the concave surface of the liver, or about the duodenum, or the gall-bladder and biliary ducts. It should, however, be recollected, that sickness at stomach, with pain and accelerated pulse, may sometimes be present, without resulting from inflammation, in the situations now pointed out; for these symptoms sometimes supervene in the advanced stage of indigestion, from altered sensibility of the nerves of the stomach, independently of inflammatory action, although more frequently they proceed from this cause." Vol. I. p. 233.

In the treatment of indigestion, the first duty of the practitioner, according to Mr Annesley, is to ascertain the causes, and remove as many of them as possible; after which the following indications are to be kept in view; "namely to remove the more urgent symptoms and complications which each case presents, to restore the impaired energy of the digestive functions; and to prevent a recurrence of the disorder."

No advance can be made in the cure, so long as the patient indulges in excessive quantities of rich food. A mild, low, and bland diet ought to be insisted on, as a sine qua non in the cure. The acid and acrid eructations, after eating, are often immediately removed by the adoption of a proper diet; but should this not be the case, the author recommends the use of gentle tonics, combined with antacids and aperients, and the exhibition of a pill consisting of a grain and a half of blue pill and three grains of aloes, or the aloes and myrrh pill, every night. If the liver be torpid, and the biliary apparatus loaded, and an inflamed state of the stomach be not coexistent, an emetic of ipecacuanha will be proper; as it will cause greater benefit by unloading the liver and promoting a free circulation through this viscus, than it can possibly do harm, by any inordinate impression, which it may exercise on the stomach.

So long as there is evidence of a deficient secretion of bile, a combination of blue pill and aloes, exhibited overnight, and tonics and aperients the next day, will be proper remedies, to be continued for a considerable time, or until the secretion is restored. When there is irregularity in the alvine excretions, and a morbid state of the biliary secretions, Mr A. recommends ten or fifteen grains of blue pill to be exhibited every second or third night, and an aperient draught to be taken every morning, consisting of equal parts of the compound infusions of senna and of gentian, with a little of the compound tincture of aloes and of cardamoms. In greater derangements of the biliary apparatus, ten, fifteen, or twenty grains of calomel may be substituted for the blue pill, and a large blister applied to the region of the liver. When the liver and bowels are much disordered, the diet should consist chiefly of farinaceous substances, with little or no animal food.

As long as the secretions contained in the stools are unnatural, a mercurial pill may be given with advantage every night, and an active purging draught the following morning; and this course ought to be persisted in until all disorder ceases.

If congestion of the liver, and inflammatory irritation of the mucous surface of the stomach should supervene, the author recommends, in addition to a low and bland diet, the exhibition of enemata, and the application of leeches to the sore and tumid part. In these cases, medium doses of the blue bill at bed-time should be adopted, and gentle antimonials exhibited during the day.

For the troublesome symptoms of heartburn and acidity, Mr A. seems to prefer the carbonate of ammonia, given with the acetate, in some mild aromatic water.

After the more urgent symptoms have been removed, by unloading the bowels, and restoring the healthy action of the liver, gentle tonics will be proper, such as weak infusions of columbo root, gentian, or chamomile flowers; but, for the most part, tonics are more safely exhibited, combined or alternated with aperients. As the strength returns, cinchona, or cascarilla with soda, may be prescribed with advantage. The general rule, in regard to these articles, is, that if they create heat of skin, and accelerate the pulse, they are to be laid aside.

Mr ANNESLEY bestows praise on the *shayraet*, (the gentiana chirayita of Roxburgh), or wormseed plant of India, as one of the best tonics that can be employed in the disease under notice, especially in weak persons; as it possesses bitter properties, without being, in any degree, heating or irritating.

After all that has been written on dyspepsia, it may be safely asserted, that the best remedies for the disease are proper food, both in quantity and quality, and regular exercise; remedies, indeed, without attention to which no others can be of any avail. In making this remark, we do not wish the inference to be drawn, that we think Mr ANNESLEY has neglected to lay sufficient stress on these points. On the contrary, his observations on the importance of diet and exercise show, that he considers them of indispensable importance in the cure.

The author next considers inflammations and organic lesions of the stomach. Uncomplicated gastritis is deemed by him to be a rare disease in India; it being almost uniformly complicated with disease of the liver, spleen, and small intestines. When the inflammation is seated in the mucous coat, he considers it slow and often obscure, and as occurring to a greater or less extent in the advanced stages of dyspepsia. When it proves fatal, it is by ulceration, which commences in the mucous follicles of the villous tunic. The symptoms are heartburn, gastralgia, especially after eating, with sense of constriction. Slight fever and thirst. Fauces and edges of the tongue red; its surface whitish or yellowish. Appetite variable. Digestion, slow and painful, accompanied by acrid, acid, and rancid eructations and occasionally vomiting. As the disease progresses, the appetite disappears. The bowels are often not much disturbed; sometimes slower than natural, and occasionally in a lax condition. As the disease advances to ulceration, the pain, heat and vomiting become more urgent, and the cardialgia, and constriction at the pit of the stomach, more frequent. Emaciation now occurs, and the fever assumes more of the hectic character. The vomit at first consists of the substances eaten, afterwards of glairy mucus, and finally, after ulceration has occurred, of a dark-coloured, grumous fluid. At last the vomiting invariably follows the ingestion of the least portion of food or drink, and the patient sinks under the disease.

The author next notices the post mortem appearances, which are those of the advanced stage of the disease, such as ulcerations, thinnings, thickenings, softenings, &c.; justly observing, that we seldom have it in our power to inspect the early appearances of chronic inflammation of the stomach. Next follow two cases with dissections in illustration of the views of the author, and as examples of the disease of which he speaks.

On the subject of cases, it may be proper in this place to mention, that the author has pursued a method of recording his observations by the bed-side deserving of all praise. In his preface, he states that he had regularly preserved accurate notes of the treatment of every case which fell under his care from 1811 to 1824. These records furnished him with the means of illustrating by cases the several forms of disease of which he treats; and, accordingly, he has throughout his work concluded the description of each affection by the citation of selected cases, as examples of the morbid condition treated of, and in illustration of his pathological and therapeutical views.

Acute gastritis is next considered, and the symptoms and post mortem appearances detailed. The disease is then illustrated by a number of cases.

The author next treats of certain organic disorders of the stomach, occasionally met with in residenters in warm climates. Sometimes these appear to be the result of slow inflammation; at other times, of quite an opposite state. Thus, according to Mr A. the appearance of the stomach on dissection, in a few cases, seems to evince the previous existence of deficient vitality of the organ and diminished vascular action. This may be a fair inference respecting the state of the stomach for some time before death; but still we should be disposed to attribute the condition to an original inflammation or irritation of the viscus.

The appearances on dissection are, dilatation of the stomach and thinning of its parietes; dilatation, with flaccid and thickened coats, without any trace of recent inflammation; coats, paler, thinner, and softer than natural, without any dilatation; and ulcerations, most numerous towards the pyloric and cardiac orifices, and which seem to have commenced in the mucous follicles. The author professes himself to be in doubt whether these appearances are the result of inflammatory action; but seems to incline to the opinion, that, generally, they are unconnected with inflammation, though capable of being produced by it. Softening of the stomach, however, he admits to be more unequivocally the result of an inflammatory condition, as it is often associated with marked inflammatory appearances in some part or other of the viscus.

We transcribe the following description of further morbid appearances of the stomach, which will be recognised as faithful, by those conversant with the morbid anatomy of this viscus in fever. The explanation which the author gives of the manner in which the black matter is produced which constitutes the black vomitings in certain fevers, appears to us to be just, and coincides with the prevalent opinion amongst American pathologists, as to the source of the black vomit in yellow fever.

"The mucous coat of the stomach often presents patches o various colours and shades, from a deep red to a violet, purple brown, or slate colour; and these are frequently elevated above the surrounding parts. This seems to have depended upon increased vascularity of the capillaries of the part, and enlargement of their diameters. More frequently these patches are situated about that part of this viscus which is covered by the spleen: sometimes they are found in other parts, and are often observed in the dissections of those who have died of remittent fever. This change has been most frequently remarked in those who have vomited during life dark brown or black grumous fluids. This appearance of the ejected matters seems to have proceeded from the exudation of blood from the capillaries of the patches now noticed, changed by its remora in the stomach, and by admixture with the various fluids and matters contained in it. When chronic inflammation of the mucous coat of the stomach has proceeded to ulceration, and when the internal surface of the scirrhous indurations of the cardia and pylorus undergo such change, a similar appearance of the matters ejected from the stomach to that described above, is usually observed. Sometimes these matters present an inky colour, and at others, a greenish-black hue. This is owing, perhaps, to the admixture of acrid and dark-coloured bile with the morbid matters flowing from the diseased surface, giving rise to a deeper colour of these fluids."

When organic diseases of the stomach already exist, very little can be hoped from medicine. But in the aggravated forms of indigestion, where the state of the mucous coat of the stomach may be considered as verging towards ulceration, art may interpose with some prospect of success. The remedies in this state of things, are leeches to the epigastrium followed by blisters; alterative doses of the milder preparations of mercury, such as the hydrargyrum cum cretâ; ipecacuanha, alone, or in the form of Dover's powder; these latter remedies to be conjoined, or given simultaneously, with carbonate of soda, extractum taraxaci, the extract of hop, or small quantities of the extractum conii or hyoscyami, according to the circumstances of each particular case. In many cases, the preparations of opium may be prescribed with advantage. The author particularly enforces the precept, that nothing can be effected without a rigid adherence to an abstemious and bland diet.

We now come to the third and most important book of Mr ANNESLEY's work, which treats of the diseases of the liver and biliary apparatus. They are considered in two chapters; the first, embracing the functional disorders of the biliary organs; the second, inflammations of the liver, and their more frequent terminations in warm climates. The functional disorders are noticed under the heads of, 1st, increased secretion of bile; 2d, accumulation of bile in the gall-bladder or ducts; 3d, congestion of blood in the liver; and 4th, torpor of the biliary organs; forming as many distinct sections.

Increased secretion of bile.—The author combats the opinion of Dr Johnson, that the increased secretion of bile observed on removal from a cold or temperate climate to a warm one, is owing to the sympathy between the skin and liver; in consequence of which, the function of the former being increased, that of the latter is also augmented. We shall endeavour to explain Mr Annesley's views on this point as succinctly as possible. It has been ascertained by the experiments of Crawford, Lavoisier and Seguin, Dr Prout, and Dr Fyfe, confirmed by Dr Copland in a warm climate, that the quantity of carbonic acid generated in respiration, is lessened by a high temperature. If then as much carbon is taken in with the ingesta in a warm climate as in a cold one, and less carbon eliminated in respiration, some other emunctory must be found for the discharge of the excess; otherwise this principle would become redundant. Now Mr Annesley conceives that this emunctory is furnished by the liver, and that, by an increased secretion of bile, that carbon is carried off in warm climates, which is thrown off by the lungs in cold ones.

What confirms Mr Annesley in the truth of this view of the subject, is, that Dr Copland in England, Dr Pierson in America, and Mr Down, as well as himself, had arrived at the same conclusion, by a similar train of reasoning, and independently of each other.

We are free to confess that this explanation of the redundant secretion of bile in warm countries strikes us as very probable. The only doubt which arises, relates to the question whether it be true that as much carbon is received in the food in a warm climate as in a cold one; and whether, indeed, any excess exists, requiring the vicarious office of some organ for its removal. Our impression is that the carbon will be less in the ingesta, both on account of the smaller quantity of solid food taken in warm climates, and its more watery nature. Heat seems to produce an instinctive disrelish for animal food, and a desire for ripe acidulous fruits. Now, animal matter, as a general rule, contains more carbon than vegetable, and much more of this principle than the vegetable acids. In connexion with this subject, it may be remarked, that it is not reasonable to suppose that the carbon which is thrown off by the lungs in greater amount in cold countries is something hurtful to the animal economy, which would have fared better, had it never been received. It seems much more probable, that the relish for food redundant in carbon, felt by northern nations, is a law of the economy, intended to prompt the animal to take into the system as food, a sufficient quantity of carbonaceous matter, to be burnt, as it were, in the lungs, in order to sustain the animal heat. For the change which takes place in the lungs is very analogous to the combustion of charcoal out of the body; the product being, in both cases, carbonic acid. A physical circumstance connected with the atmosphere tends to co-operate in the result, and is graduated, to a certain extent, to the ever-varying exigences of the system. Thus the colder the weather, the greater the density, cæteris paribus, of the air, the greater the quantity of oxygen introduced into the lungs in a given volume, and, in all probability, the greater the quantity of carbonic acid generated.

We, therefore, think, that the diminished quantity of carbonic acid emitted from the lungs of persons in warm climates, is owing rather to the greater rarefaction of the air, than to the reduction of the powers of life from the influence of heat, or the presence of malaria, as supposed by Mr Annesley. It is true, that it may in part be attributed to a less quantity of redundant carbon in the system to be thrown off; for it might with much probability be assumed, that, the eliminating power remaining constant, the quantity of carbon separated in respiration would be less, the smaller the redundancy of that principle in the system.

Admitting that the remarks which we have ventured to make possess any value; they are not to be viewed, strictly speaking, as contradictory to the ingenious views of the author. We expressed doubts, indeed, whether carbon was redundant in the systems of persons in warm climates, founded upon the probable adaptation of their food to the exigences of the animal economy, as modified by temperature. But this adaptation may not immediately take place in persons newly arrived in warm climates; as the influence of previous habits may be deemed far more potent than the promptings of physical instinct. Our remark, therefore, is applicable only to the natives, and those who may have wisely accommodated their diet to the new circumstances in which they have found themselves placed. Hence the fact in regard to Europeans newly arrived in India, may be strictly correct as stated by the author, that, continuing to indulge in a gross, full diet, not adapted to the circumstances of the country, the carbonaceous element is introduced more rapidly than it can be eliminated by the lungs. The consequence is, that nature seeks some other outlet, and that outlet is the liver, operating by an increased secretion of bile.

Accumulation of bile in the gall-bladder or biliary ducts.—Mr ANNESLEY is of opinion, "that the secreting functions of the liver may be so modified in a warm climate, that, in addition to an increase of the biliary secretion, this fluid itself may be retained and accumulated in those parts of the apparatus which admit of the retention," without its being necessary to suppose any actual obstruction of the ducts, either by calculi, or the existence of spasm. The symptoms of this functional disorder of the liver are thus enumerated by the author:

> "The earliest symptoms of which the patient generally complains, are, clamminess and foulness of the mouth, fauces, and tongue, with a bitter taste, particularly in the morning; a sense of distention and weight at the epigastric region and at the præcordia, frequently with a sense of coldness and sinking in the same situations; slight anxiety; acid and acrid eructations about three or four hours after a full meal, with painful fulness at the epigastrium, and difficult digestion. The patient often complains of headach, pain in the back or loins, uneasiness under the shoulder-blades, fulness and pain in the region of the liver particularly when pressure is made at the time of his taking a full inspiration, and of aching in his knees, shoulders, and limbs; his countenance being pale, sallow, or muddy, and the conjunctivæ more or less tinged of a yellowish hue. The state of the pulse is different in different cases. It is often slow and full, and sometimes it is irregular in frequency and strength; occasionally it intermits, and not unfrequently becomes quick, but oppressed upon the least motion or exertion. The urine is generally high coloured, and depositing a brownish sediment. The stools are often costive, sometimes light, or clay-coloured, and frequently tenacious. When the accumulated bile is discharged into the alimentary canal, much constitutional disturbance then generally arises, according to the qualities which this fluid may have acquired from its retention. The pulse now becomes quick, and often irregular; vomiting and purging, with griping, pain and anxiety, often supervene, sometimes with spasms. Thirst becomes urgent, and the tongue, which was before foul, is now excited, often dry, and its papillæ large, distinct, and erect." Vol. I. p. 329.

According to various circumstances, the irruption of the bile, in these cases, when it does take place, produces, simple bilious diarrhœa; bilious or sporadic cholera; simple dysentery, or inflammation of the mucous surfaces of the intestines; inflammation of the stomach, &c.

Congestion of blood in the liver.—The following symptoms of this condition of the liver are enumerated by the author:

"The symptoms marking the congestion of the liver, particularly of the portal veins, are not such as can individually be depended upon. They must be viewed in connexion, and the relations and sources of each should be duly weighed, before we decide upon the actual presence of a particular state of the vessels. When, however, the countenance is pale, anxious, inexpressive, sallow, of a dark or muddy hue; when the tongue is covered with whitish or yellowish-white fur, or otherwise loaded; when the bowels are costive, or when the stools are morbid, dark, and watery, with griping and tenesmus; when the digestion is difficult, attended with nausea, or when the appetite is diminished, and the patient complains of pain and oppression at the scrobiculus cordis, particularly after a meal, with flatulence, borborygmi, and oppressed breathing, and a difficulty of filling the lungs to their utmost; when the skin is cool, clammy, and foul, or of a dark muddy tinge, with irregular chills, sometimes approaching to rigors; when pain, fulness, weight, and oppression, are experienced in the region of the liver, and at the epigastrium, or across the shoulder blades, or beneath the scapula, and have supervened suddenly; when the uneasiness in those situations is increased upon a full pressure and full inspiration; when the pulse is full, slow, and irregular, or when it is quick, but oppressed; when there is headach, restlessness, disturbed sleep, with unpleasant dreams; and when the urine is turbid, or presenting a muddy sediment,—we may infer that congestion of the vessels of the liver is actually present." Vol. I. p. 347.

The author cautions the reader against expecting to meet with all these symptoms in the same case; and, indeed, declares that it is as much from the absence of certain symptoms, characterising other diseases of the liver, as from the symptoms present, that the physician is to form his diagnosis.

The following are the post mortem appearances in this condition of the liver, according to Mr ANNESLEY. Size of the viscus usually much increased, particularly of the right lobe, which causes it to rise up in the direction of the right side of the thorax. Colour, variable; sometimes darker brown than natural, almost approaching to black, greenish black, or bottle green, passing in some instances, very abruptly, into reddish or light brown. Sometimes the surface is variously mottled or marbled, and, occasionally, streaked and clouded, of a yellowish-brown, greenish-black, or yellowish-green hue. These shades are, generally, more remarkable upon the convex surface, but are observable on the concave surface also.

Torpor of the biliary organs.—Mr ANNESLEY enumerates many causes, which he supposes to be productive of torpor of the liver. Whatever exhausts the vital energy of the biliary apparatus will give rise to this pathological state. Among the causes may be mentioned, dissipation, excesses in animal food, and highly-spiced dishes; inordinate use of spirituous and vinous liquors, and the sudden cessation of their use ; indolence and neglect of exercise ; inattention to the regular action of the bowels, &c.

The symptoms of torpor of the liver which most generally prevail according to Mr ANNESLEY, are, want of appetite ; drowsiness ; pain over the eye-brows ; lowness of spirits, and hypochondriacal feelings ; dark, or high coloured urine ; costiveness ; pale or clayey motions ; dark or sallow countenance ; wasting of the flesh ; slow and painful digestion ; flatulency ; bitter or disagreeable taste in the mouth ; a loaded tongue, particularly in the morning. To this list of symptoms, it occurs to us to add, a feeling of sluggishness, or indisposition to any sort of mental or bodily exertion.

Mr ANNESLEY speaks of the remedies for the foregoing functional disorders of the liver in the same section. This course he considered most eligible, on account of the analogies of these disorders, and to avoid repetitions. The following is a summary of his observations. When from the habits of the patient, we have reason to suspect the increased secretion and accumulation of the bile, or congestion of blood in the liver to depend upon full living, especially in new comers, venesection will be proper. In old residenters and natives, and in the less robust, local depletions by leeches will be most advisable. The other parts of the treatment, with few exceptions, should be strictly antiphlogistic. Aperients, cathartics, and purgatives are also requisite, according to the state of the bowels, to carry off their morbid contents. When from a sudden irruption of bile into the duodenum, disturbance of the system is created, attended with purging and vomiting, copious draughts of warm diluents, especially warm water, by diluting the bile and favouring its expulsion, are highly useful. If, under these circumstances, there is a bitter taste in the mouth, and no sign of active inflammation of the liver, an emetic of ipecacuanha will be proper ; and its efficacy will be promoted by a liberal use of warm fluids. After the operation of the emetic is over, a full dose of calomel may be prescribed, to remove the bile and other secretions poured into the bowels, to be assisted by jalap and supertartrate of potassa, or a weak solution of salts. In case the flow of acrid bile has produced inflammatory irritation of the mucous surface of the stomach and bowels, leeches should be applied, to be followed, if necessary, by a blister. If the discharges still continue bilious after the repeated use of purgatives, then calomel or some other mercurial preparation should be given, in full doses overnight, and an aperient draught the next morning, with a view of establishing a healthy flow of bile. If the mouth should become affected under this treatment, the healthy functions of the liver are more likely to be speedily restored.

This plan of full doses of calomel at bed-time, and aperient draughts the next morning should be persevered in, according to the author, until the motions assume a healthy aspect, and the tongue and mouth become of a natural appearance. On some occasions, mild purgatives, and even strong cathartics will not act sufficiently; and when this is the case, they should be assisted by enemata. Mr ANNESLEY has generally found, that a large dose of calomel, followed by castor oil, or the common black draught of senna and sulphate of magnesia, and assisted by a purging enema, answered very well. The continuance of the aperients should be judged of by the character of the motions, which should be carefully and frequently examined, and not by the quantity taken, or the frequency of their exhibition.

Our readers will perceive, that Mr ANNESLEY is not at all sparing in the exhibition of purgatives in these hepatic disorders. In justice to him it is proper, however, to state, that he is not in favour of their indiscriminate use, as the following judicious caution will show :—

" When, however, we have symptoms of inflammatory action of the mucous surface of the bowels present, we should then be extremely cautious in the exhibition of purgatives, and should assiduously endeavour to discriminate between the disordered state of bowels proceeding from inflammatory action, and that arising from the retention of disordered secretions or other matters." Vol. I. p. 385.

The remedies recommended for vascular congestion of the liver are pretty much the same as those for the state of increased secretion of bile. But as, in congestion, the condition is very prone quickly to run into inflammation and abscess, the sanguine depletions, both general and local, should be pushed to a greater extent. This direction is proper without regard to the state of the pulse; for, although often slow, weak, and oppressed, it generally rises as the depletions proceed, in consequence of the load which is thus removed from the system.

The remedies for torpor of the liver, when unconnected with chronic disease of the viscus, are, in the beginning, full doses of calomel at bed-time, followed by combinations of bitters and aperients the next morning; and blisters over the epigastrium, or hypochondriac regions, repeated at intervals. Afterwards the blue pill, combined with the pil. aloët. cum myrrhâ, may be given overnight, and a bitter aperient the next morning. The author has employed in these cases, the nitro-muriatic acid internally, and externally as a wash over the hypochondriac and epigastric regions, night and morning, with the most decided advantage. He has also observed much benefit to result, after blistering, from the continued application, over the epigastrium, or right hypochondriac region, of a plaster, consisting of the emplast. picis comp. combined with an equal quantity of the emplast. hydrargyri, or emplast. ammoniaci cum hydrargyro.

We now come to the chapter which treats of inflammations of the liver. The first section is devoted to acute inflammations of the viscus. The author considers inflammation of the liver as almost invariably preceded by some one of the forms of functional derangement of the organ; and hence these latter affections are of such importance to be attended to. As a general rule, inflammatory action commences in the parenchymatous structure, and if it extend to the surfaces, it is usually in the advanced stages of the disease. Sometimes, however, the liver becomes affected from some adjoining viscus, as the stomach or duodenum; in which case, the surfaces inflame first. It often happens, in India, that the internal structure of the liver is violently inflamed, without any decided marks of inflammation in the envelope of the organ. So true is this sometimes, that abscesses of the liver break into the abdominal cavities, in default of those adhesions, the result of inflammation, which conduct the matter safely into some hollow viscus, or to the external surface.

When the morbid condition interests several structures besides the liver, it is very difficult to ascertain, from the early history of the case, in what order the morbid phenomena occurred. Post mortem examinations, the author states, may mislead us, if we are not aware, that the last structures affected, will, in all likelihood, present the greatest deviations from the natural structure. Thus Mr A. informs us, that in India, he has met with the cases of soldiers, more especially those addicted to the use of spirituous liquors, whose disease would commence in the stomach, and proceed successively to affect the liver and the mucous surface of the intestines in the form of dysentery, the stomach being in the mean time relieved: and if death should take place, the large intestines, the last hold of the disease, will present the most remarkable appearances of disease, in which the liver will participate to a certain extent; while the stomach, the first to suffer, will present the least deviation from the natural state.

One of the greatest difficulties, with which the practitioner has to contend, is to determine the precise time, when inflammation of the liver has supervened on functional disorder of the viscus. The principal cause of this difficulty is the low degree of sensibility possessed by the internal structure of the organ.

Mr Annesley rejects the common division of inflammation of the liver, into acute when it attacks the surface, and chronic when it is seated in the parenchymatous structure of the organ. It is true, that there is less pain when the internal structure is inflamed; but, in India, when the disease is seated in that part, it is by no means necessarily chronic, in the strict sense of the term, as referring to duration; though for the most part, the inflammation has that character.

The following are the commencing symptoms of inflammation of the substance of the liver, according to the author :—Oppression, weight, and uneasiness about the pit of the stomach and right hypochondrium, increased by a full inspiration. The pulse soon becomes accelerated towards evening, being often slower and more oppressed than usual, and occasionally, irregular or remittent. Countenance, pale, sallow, or somewhat anxious; spirits, considerably depressed; tongue, yellowish-white, and more or less foul; loss of appetite, with nausea; unpleasant taste in the mouth; bowels irregular, being at first generally costive; urine, scanty, loaded, and high coloured. Sometimes there is headach, and generally disturbed sleep, and often slight dyspnœa and sighing, with oppression of the chest and epigastrium.

As the inflammation advances, the pulse becomes quicker and fuller during the evening and night. The uneasiness in the region of the liver and epigastrium, becomes often augmented; and if the vascular fulness of the organ be great, the patient complains of a heavy dragging pain. There is often a short, suppressed cough, with shortness of breathing, and a catch in the respiration, particularly after quick motion. The easiest position is usually upon the back, or sitting gently bent forward. All these symptoms are generally increased by eating. The pain on the top of the shoulder, which is certainly characteristic of the affection, is, according to Mr A. only occasionally present; and here the inexperienced practitioner, in the absence of this symptom, is apt to conclude erroneously that the liver is sound. When the internal structure is the seat of the inflammation, the pain is seldom acute; but it is so, if the surfaces or ligaments become affected. When the right lobe is very much enlarged, it encroaches upon the cavity of the thorax, and produces symptoms which lead the inexperienced practitioner to mistake the disease for pneumonia.

If nausea and vomiting are urgent and continued, there is reason to suspect the affection of that part of the liver nearest the stomach, and the extension of considerable disorder to this viscus, the gall-bladder, and duodenum.

As the inflammation advances to its height, the febrile symptoms become more marked. The pulse is more frequent and irritated; but it varies greatly in different cases, and its indications, viewed singly, cannot be depended upon.

The countenance is at first pale or sallow, but as the inflammatory action advances, it "fills out more fully;" and when there is great fulness and oppression in the region of the liver and chest, the face often becomes fuller than natural, with some degree of dusky redness in the cheeks. The countenance and eyes, however, still possess a murky, or muddy, or sallow hue; and more or less of a dark circle surrounds the eye, particularly beneath it. Jaundice, though often associated with inflammation of the liver, in temperate climates, is, according to Mr ANNESLEY, not a frequent concomitant of the hepatitis of India.

When the hepatitis arises without any previous functional disorder of the liver, the bowels are generally costive early in the disease. When, however, it results from a congested state of the organ, or accumulations of bile, the stools are disordered from the first, being generally irregular, foul, dark-coloured, and fetid. In this condition, the morbid biliary secretion, by its irritating action on the mucous membrane of the colon and rectum, produces those more obstinate forms of dysentery, which require to be treated by depletions, purgatives, and a mercurial course.

When the surface of the liver is the seat of inflammation, the febrile signs are more prominent; the pulse is generally much accelerated and hard, and the pain in the right hypochondrium is more or less acute. There is also cough, and much increase of pain or a catch upon a full inspiration. The heat of the skin is greater, and its dryness more unnatural. The tongue is generally drier and more coated, and the thirst greater.

When the superior surface is inflamed, coagulable lymph is sometimes thrown out, and the inflammation extends to the diaphragm, producing diaphragmitis, and considerable symptomatic disease of the lungs. In these cases, the distress of the patient is often very great.

The post mortem appearances in diseases of the liver, are next noticed by the author. The pathologist has very seldom an opportunity of observing the appearance of the viscus in the earlier stages of inflammation, as the patient at this period is not generally cut off. It is only when hepatic inflammation has arisen in the advanced stages of fatal fever and dysentery, that he enjoys this advantage. The surface of the liver, in an inflamed part, is unusually vascular, and of a bright red or reddish-brown colour. Sometimes it is covered with lymph, either gelatinous, or so consistent as to glue the inflamed surface to the contiguous parts. Under the lymph, the surface of the viscus is of a deeper colour, and more vascular than natural. The parenchyma, immediately underneath, also exhibits increased vascularity, and when cut into, gives out more blood than in the natural state. The internal structure, in the early stage of the inflammation, is usually more friable and softer than natural; though occasionally, as in the more chronic cases of disease, it is firmer and denser. The surface presents various colours. "Sometimes, it is marked with red, brown, brick-coloured, greenish-brown, and even with almost black spots and streaks."

Mr ANNESLEY has never seen a case of gangrene of the liver; and as his opportunities have been very great for observing the diseased states of this viscus, he is led to believe that the alleged cases of gangrene, related by authors, were merely a black, congested and softened state of the organ.

In the second section of the chapter on hepatic diseases, Mr ANNESLEY treats of the more chronic inflammations of the liver, and organic diseases of the organ. The principal symptoms of chronic inflammation of the internal structure of the liver are thus enumerated by the author:

"Loss of flesh; dyspeptic symptoms, particularly slow and painful digestion, accompanied with acid and acrid eructations, flatulency, nausea and sometimes vomiting, torpid state of the bowels, or dark-coloured, offensive, slimy, greenish-coloured, tenacious, or watery and muddy motions; frequent calls to stool, and scanty and morbid state of the evacuations; dark coloured and disordered condition of the urine; distention and oppression at the epigastrium and right hypochondrium; occasional aching pain and weight in these situations; uneasiness and pain about the right shoulder, or shoulder blade; slight acceleration of the pulse towards evening, with an irritable beat, and considerable heat and restlessness through the night; burning heat of the palms of the hands and soles of the feet in the evening, and chilliness in the morning; white, foul, and excited tongue; bitter or disagreeable taste of the mouth; hardened state of the gums; sallow and tallowy appearance of the countenance, and either yellow or pearly-white colour of the eye; sickly and leucophlegmatic character of the body generally; and elevation of the shoulders." Vol. I. p. 471.

The chief organic changes met with in India, as a consequence of chronic inflammation of the liver, are, collections of matter; sometimes very minute abscesses, containing, but not completely filled with, a firm and cheesy matter of a yellowish-white colour; viscus enlarged and dense, particularly the right lobe, arising from the deposite of lymph in the interstices of the structure, sometimes mistaken for scirrhus; tubercles of various forms and textures, with and without apparent cysts; a gristly or cartilaginous hardness; rough, pale, and parboiled-like appearance (in drunkards); cheesy and tuberculated structure; spongy and less vascular condition of its internal texture; atrophy, with or without the marks of cicatrices; various colorations of the surface and substance, and adhesions of various kinds to adjoining parts.

The next section is taken up with the account of the symptoms and nature of abscess of the liver.

The signs by which the supervention of abscess of the liver is indicated, are not very decided. Rigors are seldom attendant; but more frequently, shudderings and formications. Sometimes, there is an internal sense of throbbing in the region of the liver, followed by a broad, soft pulse, and night perspirations. These latter, indeed, with clamminess of the skin of the extremities, are among the most certain signs of the formation of matter which we possess. The next in importance are frequent cold sweats. If after decisive vascular depletion, it is found difficult to affect the system with mercury, abscess may be considered as having already formed.

When abscess has formed, the tongue is at first sometimes white, and the papillæ raised or excited; afterwards becoming of a dusky, brick-coloured redness. At other times, it is dry, coated, and of a brown tinge. " In the more chronic cases, it is often smooth, chapped, lobulated, and apparently deprived of its papillæ."

" When great mischief is going on in the liver, without any acute symptoms, the tongue is often an excellent guide, and more to be depended upon than the pulse. In many of the less acute or chronic cases of abscess, the tongue has a peculiar white appearance, with the papillæ raised or excited: it is somewhat dry, but without any coating. This is what we have called an excited tongue, because we have considered it a sign of great vascular excitement going forward in internal structures; and we have often ordered depletions from this symptom alone, the tongue becoming natural as soon as a full depletion was performed. Hence we have considered that, when this state of the tongue is observed, depletions may be directed more safely than upon the indication of any other symptom. Care should, however, be had not to confound this appearance with a white and moist condition of the tongue, or with a white, yellow, or brown crusted state of this part. The pulse, at the commencement of the formation of matter, is generally soft and full, is subject to acceleration in the evening, and, as the organic change advances, becomes more irritable, quick, and contracted." Vol. I. p. 529.

The author next makes some observations on the state of the stools in abscess of the liver; the symptoms when the abscess presses either upon the diaphragm or stomach; the positions most generally assumed by the patient; the intensity, locality and character of the pain; the manner in which the abscess breaks internally; the appearance of the liver on dissection, and lastly, the different characters of the matter. These points are all noticed in a satisfactory way; but we have not room to make extracts.

Mr ANNESLEY next considers the treatment of inflammations of the liver, which is comprised in three sub-sections, severally devoted to the more active forms of hepatitis; to the more chronic forms of the disease; and to abscess of the organ.

The author enforces, in his opening remarks, the great importance of active measures of depletion in the threatening states of disease of the liver, before the morbid condition has proceeded to an irremediable length.

The remedies for the more active forms of hepatitis are arranged under the heads of blood-letting, general and local; mercurials, purgatives, and laxatives; other means of cure; remedies for complications.

Blood-letting, general and local.—This is considered by the author to be the most valuable remedy in hepatitis. He has occasionally had occasion to regret the omission of blood-letting; but never its employment, or the extent to which he had practised it.

In the more active forms of hepatitis, occurring in the plethoric and robust, one or two full blood-lettings should be performed; the first to be carried so far as to produce a marked effect upon the pulse, without regard to the quantity abstracted. After these depletions, increased vascular action generally returns in a few hours. When this occurs, from sixteen to thirty leeches* should be applied over the right hypochondrium and epigastrium. If the patient be robust, and not relieved in a few hours, the same number may be reapplied; and after the bleeding from the bites has been stopped by some styptic, as the muriated tincture of iron, a large hot poultice may be placed over the affected part, and frequently renewed. The advantages of poultices, insisted on by the author, are, that they remove tension and pain, promote determination to the surface, and equalize the distribution of the blood.

Sometimes from the depressed state of the pulse, the first blood-letting cannot be carried far enough before faintness is produced; and the blood drawn, exhibits a dark, thick, and oily appearance, with a glutinous state of the serum. The pulse now rises, and a second vascular depletion is called for, which is borne better than the first, and gives more relief; and the blood is now more florid, and exhibits the buffy coat for the first time, or more of this appearance than before. As long as the tongue remains excited, with pain, anxiety, and tension, local depletions should be repeated.

In many cases, the blood abstracted by the leeches, is of a dark colour, and thick consistence, sometimes with the appearance of tar. These states of the blood are supposed by the author to be characteristic of a particularly low condition of the vital energies of the system. We agree with him in this opinion, and, as connected with the subject, refer our readers to Dr PALLAS's experiments on the comparative qualities of blood drawn from the veins and capillaries, an account of which is contained in our last volume, page 220. When the blood exhibits this appearance, the author states that he has found it necessary to give diffusible stimuli, at the same time that he was practising the local abstractions of blood for the purpose of removing the vascular load by which the portal vessels seemed oppressed. This apparently inconsistent practice of employing depletions and stimuli at the same time, we are thoroughly convinced, is, in some pathological states of the system, highly necessary to be pursued.

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* Mr ANNESLEY has ascertained by numerous experiments, that the leeches of India abstract, on an average, an ounce and a quarter of blood, independently of what escapes after their removal.

In the less active forms of hepatitis, the sanguine depletions should be only local; and in debilitated patients, the number of leeches applied should be small, and repeated every few days. Cups should be avoided, as producing pain by their pressure. These local depletions are often necessary, when even a small loss of blood from a vein would prove detrimental.

The following remarks of the author are so well expressed, and at the same time so just that we make no apology for transcribing them.

"It may appear, perhaps, incredible to many of our readers, after having perused the observations contained in the present volume upon the habits and modes of living of many Europeans in India, that there should be still found practitioners, who espouse opinions unfavourable to the employment of vascular depletions in the hepatitis of India, and who place their sole reliance upon the use of mercury or nitric acid for the removal of the disease. Yet such is the case, although we believe that the number is daily diminishing, and that correct views are becoming very general. Many of those practitioners, however, reject depletions altogether, because they consider that the state of the patient does not admit of the institution of venesection; and as they believe that general depletion cannot be ventured upon, because of the state of the pulse and the spurious symptoms of debility present, so they overlook the fact, that, in the diseases of internal viscera particularly, local depletions may be performed, and even repeated with the best effects, when venesection would be injurious, or, at least, of doubtful advantage. They also overlook an important circumstance connected with the state of the pulse, and of the energies of the system, frequently observed in hepatic diseases; namely, that the pulse may be weak and small, simply from congestion alone, or from this state accompanying the inflammatory action, and from the blood being determined to the internal viscera, and abstracted in an equal degree from the extremities and surface of the body; and thus, from its accumulation in these viscera, oppressing, but not altogether overwhelming, the powers of life. In almost all such cases, the pulse rises, and the energies of the frame are restored by the local depletions, even when a general depletion, in some few instances, might not be borne well by the patient. This is a point most deserving the attention of practitioners in every climate; for to reject depletion altogether, because blood-letting from the arm may not safely be ventured upon, is as illogical in reasoning, as it is most detrimental in practice." Vol. I. p. 588.

Mercurials, *purgatives and laxatives*.—After the first vascular depletion, Mr Annesley recommends the exhibition of a full dose of calomel. This medicine, he considers as the most beneficial in inflammatory states of the system, the most active in eliciting a healthy secretion of bile, and the most efficient in dissolving that viscid and tenacious secretion which covers the mucous coat of the intestinal canal, at the commencement of nearly all the disorders affecting the organs of digestion. He generally gives it overnight, and follows it the next morning with supertartrate of potassa and jalap, castor oil, the common black draught; or, when the energies of the system are much impaired, a combination of the compound infusions of senna and of gentian, to which may be added some cathartic or laxative neutral salt, the aromatic spirit of ammonia, or sweet spirit of nitre, according to the circumstances of the case.

Mr Annesley is in favour of quickly inducing ptyalism, after the mouth begins to be affected by the calomel, in twenty grain doses, and then laying the medicine aside. By this course, a powerful derivation from the liver is created to the mouth and salivary glands; whereas, if frequent doses of calomel are prescribed, as five grains every three or four hours, they often produce greater irritation, and are longer in producing the desired effect. A dose of twenty grains, Mr A. thinks, will act as a sedative to an irritable stomach; whilst smaller doses will only increase its irritability.

The means which the author relies on for the speedy induction of ptyalism, are mercurial inunction, with camphorated mercurial ointment, performed thrice a day, and the exhibition of twenty grain doses of calomel at bed-time, combined with antimonial powder and opium. The combination of the antimonial preparations, he conceives to hasten the specific effects of the mercury.

Other means of cure, which frequently prove beneficial.—After the more inflammatory symptoms have been removed by active depletions and calomel, the liver may be left in an inactive or enlarged state. If enlarged, small doses of the blue pill, either alone or combined with Plummer's pill, may be given at night, followed the next morning by weak solutions of neutral salts, or the infusions of senna and gentian, or the carbonates of the alkalies. If the inactive state of secretion depend upon slow and insidious disease, the local depletions and mercury, both internally and externally, must be resorted to again. If these means fail, the author recommends sponging the hypochondria with the nitro-muriatic wash, and the exhibition of a weak solution of nitric acid, as a common beverage.

Treatment of the complications of acute hepatitis.—The remarks of the author here relate chiefly to gastritis, which he conceives to accompany acute hepatitis, for the most part from the neglect of active vascular depletions, the propriety of which he so strongly urges. This complication requires the same treatment as simple acute inflammation of the liver, with the reservation that stimulating or acrid purges would be improper. This caution is not to be considered as interdicting the use of calomel, which, in full doses and combined with opium, according to the opinion of the author, in which we heartily concur, directly tends to subdue the gastric disease.

If we were to continue our analysis, it would be necessary that we should next give an abstract of the author's views on the treatment, respectively, of the more chronic forms of inflammation of the biliary organs, and of abscess of the liver; but the length to which this article has already extended forbids this, and we reluctantly pass over these subjects, as well as the sections "on hydatids of the liver," and the "precautions on change of climate, for the adoption of those subject to diseases of the biliary organs," with which the author's truly admirable account of hepatic affections terminates.

The second volume is taken up with the account of the diseases of the liver and pancreas, and of the bowels, including dysentery, diarrhea, and bilious cholera; and of the fevers of warm climates, more particularly those of India, embracing intermittent fevers, remittent fevers whether bilious or malignant, and continued fevers.

The contents of the second volume would furnish ample materials for several analytic articles, if it were thought expedient to continue this review in future numbers. The analysis which we have given, imperfect and incomplete as it is, has nevertheless furnished, we fain would believe, sufficient evidence that the work of Mr ANNESLEY is the production of a master. His account of the diseases of the liver is truly excellent, and we do not hesitate to pronounce it the best that we have yet seen. We have dwelt more particularly on this part of the work, on account of its importance; and because we supposed that an abstract of the opinions of so experienced a practitioner as Mr ANNESLEY, respecting the hepatic diseases of India, would be very acceptable to our readers in the southern states. The low lands of South Carolina and Georgia, bordering on the sea, must resemble to a considerable extent the corresponding tract of country in India, and no doubt are productive of similar affections of the liver.

Bibliographical Notices.

Article XIII.—*Quædam de Phlegmasiæ Albæ Dolentis Pathologia. Dissertatio Inaugur. Medica; Oct.* 1826. *Auc.* H. G. Grimm, *Halberstadiensis. Berlin*, 1829.

Since the time of Mauriceau, to whom we are indebted for the first satisfactory account of that peculiar painful intumescence which attacks occasionally the extremities of parturient females, the disease has been described, under a variety of names, by numerous medical writers, almost every one of whom has advanced a different hypothesis in relation to its nature and causes. The disease is undoubtedly one of exceedingly rare occurrence. Many individuals in extensive practice have never met with it, while to others a very few cases only have presented themselves. White informs us, that in 1897 accouchements, attended at the Westminster General Dispensary, it occurred but five times; and among 800 females delivered by himself but four cases were observed. Dr Grimm states, that Albers and Siebold saw each but five instances of the disease, and that Jörg had never met with it.

In the essay before us, the author, a candidate for the doctorate in the university of Berlin, has presented a very judicious view of all the facts at present known in regard to this affection. His description of its symptoms, progress, and terminations, is at once concise, clear, and accurate. He examines in detail the various morbid appearances brought to light by dissections, and notices the several affections with which phlegmasia dolens has been too frequently confounded. From every circumstance connected with the disease; from its causes, symptoms, and pathological anatomy; he concludes that it consists in an inflammation of the lymphatic vessels of the limb, commencing, ordinarily, in "the lumbar plexus." This opinion corresponds very nearly with that advocated by Dr R. M. Huston, in a paper published in a former number of this Journal*.

The dissertation of Dr Grimm does him much credit; its merits certainly far exceed those of the ordinary class of inaugural theses.

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* See No. VIII. p. 237.

ARTICLE XIV.—*Elements of Chemistry, including the Recent Discoveries and Doctrines of the Science. By* EDWARD TURNER, M.D. F.R.S.E. *Professor of Chemistry in the University of London, &c. &c. Second Edition, enlarged and carefully revised. London*, 1828. *8vo. Pp.* 831.

It gives us great pleasure to be able to announce the appearance of a second edition of the valuable Elements of Chemistry of Dr TURNER, after an interval of only twenty months, from the appearance of the first. The quickness with which this new impression has been called for, may be taken as an index of the estimation in which the author's labours are held by the British scientific public.

The general commendation which we deemed it just to bestow upon this treatise in our notice of it on a former occasion*, must, for additional reasons, be deserved by the present enlarged and revised edition. The portion on electricity is nearly re-written, and that on galvanism very much improved and enlarged. Besides these improvements, an article on crystallization has been added, forming an introduction to the history of the individual salts; and a section on the newly discovered substance bromine, and its principal compounds, has been introduced in its proper place, between iodine and fluorine.

A portion of the inaccuracies, which we indicated as existing in the first edition, have been corrected, while a considerable number have escaped the vigilance of the author. We regret very much that it was impossible for him to profit by our criticisms, on account of the time at which the second edition appeared in London, being contemporaneous with the appearance of the number of this Journal containing our notice; otherwise we feel convinced that the author would have been induced to make a number of additional corrections.

And here we confess that we felt gratified to find, that the passages in the author's section on the laws of combination, &c. which we objected to as obscure, and loosely expressed, have proved, on revision, to be unsatisfactory to the auther himself; for these passages have been so modified in the present edition, as to remove our objections and clear up the obscurities complained of, and this has been done, without its having been possible for the author to see our remarks.

We are not without strong hopes, that the scientific public in this country will call for an American edition of this work in octavo, to be published in a manner in some degree to rival, in the beauty of the impression and paper, the edition which is now before us. The cheap American duodecimo edition, heretofore published, may suit a certain class of readers; but cannot be considered an eligible form for students of medicine and chemistry in our higher seminaries of learning.

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* See Vol. VI. p. 374, for an analysis of this work

ARTICLE XV.—*Description of the Distinct, Confluent, and Inoculated Small Pox, Varioloid Disease, Cow Pox, and Chicken Pox. Illustrated by Thirteen Plates. By* JOHN D. FISHER, M.D. *Boston. Wells & Lilly.* 1829.

This work is most creditable both to the author and the publishers. It is in quarto, and as far as regards all the details of art, execution of the coloured plates, print and paper, may vie with most of the so much vaunted productions of the London or Paris press.

Bearing in mind certain expressions uttered by Dr JAMES JACKSON in his lectures at the Medical College of Harvard University, in the winter of 1824—5, touching the difficulties of distinguishing variolous from other eruptive diseases, and the utility of a series of coloured engravings illustrative of the progress of the former, the author, during his stay in Paris in the years 1825 and 1826, undertook to furnish this desideratum. The paintings, from which the plates in the work are engraved, were executed by a French artist, under the immediate direction of Dr FISHER during the above mentioned period, when the variolous disease prevailed epidemically in that city: they were all begun and finished at the bed-side of the patients from whom they were taken. We subjoin, as farther indicative of the intentions and views of the author, the following extract from his dedication to Dr JACKSON:

> "In the text I have merely given an explanation of the plates, and a description of the diseases represented in them. To have done more would have been foreign to the object of the work. It will be observed, however, from the descriptions, that I have considered it as an established fact, that the small pox and the varioloid are one and the same disorder, the latter being only a modification of the former; and that the chicken pox is a separate and independent malady. This, if I recollect right, was your opinion, expressed in a medical journal, soon after the publication of Dr THOMPSON'S theory upon the subject. All the observations which I have been able to make go to confirm the truth of the opinion. Indeed, the facts, that the small pox and the varioloid are capable of engendering each other, and that the chicken pox has, year after year, prevailed epidemically in many of our towns in which the small pox never appeared, and consequently without giving rise to it, settle the question of their identity."

The first four plates represent the eruption of the distinct small pox, as it appeared on the face and hand of a male child on the *second*, *fourth*, *sixth* and *eighth day* after it broke out. In the figures under the portraits in plates I. and II. is a representation of the confluent small pox, as it appeared at different periods on the face and hands of a girl aged fourteen. In the figures under the portraits in plates III. and IV., the inoculated small pox is represented during its progressive stages.

In the portraits contained on plates VI. VII. VIII. IX. we have the representation of varioloid, or modified variolous eruption of the distinct kind, as it appeared on the *second*, *fourth*, *sixth*, and *tenth day* of its development. The female, who was the subject of the eruption, had been vaccinated when young, and the marks of vaccination were visible on her arm.

In figure first, under the portrait in plate VI. is a representation of the itch. In figure second, on the same plate, is delineated the rubeolous eruption. The figures, first and second, under the portrait in plate VII. are representations of the chicken pox eruption on a child on the *second* and *fourth day*. In figures 1, 2, 3, and 4, beneath the portraits in plates VIII. and IX., is an engraving of four varioloid pocks, which appeared on a little girl six years of age.

In the portraits contained in the plates X. XI. XII. is represented a case of the confluent varioloid eruption as it appeared on the *fourth*, *sixth* and *eighth day* of its development on a young lady aged twenty years. The figures A. A. under the portrait in plate XI. exhibit an accurate copy of the natural small pox, as it appeared on the hand and round the eye of a labourer, on the *seventh day* after it broke out.

One series of figures of plate XIII. represent the progressive development and changes in a perfect cow pox vesicle as it appeared on the arm of a healthy child, on the *fourth*, *fifth*, *sixth*, *seventh*, *eighth*, *ninth*, *eleventh*, *twelfth*, *fourteenth* and *nineteenth day* after the operation of vaccination was performed.

In another series of the figures in this plate, we have a delineation of the progress of a spurious cow pox vesicle, as it appeared on the *third*, *fourth*, *fifth*, *sixth*, *seventh* and *eighth day* after the matter was inserted.

In this same plate is represented the *chicken* pox eruption in its different forms.

The letter press, accompanying the plates, consists of seventy-three pages of valuable descriptions of the various forms and stages of the eruptive diseases.

The author has not deemed it advisable to exhibit the face precisely such as it was when covered by the eruption, except in one patient of the confluent small pox. He has preferred introducing a few patches indicative of each stage of the eruption. On this account, the precise physiognomy of a patient with small pox or varioloid is not so strikingly exhibited, and hence some little feeling of disappointment to those to whom the diseases in question have been familiar.

Take it, however, all in all, it is a most valuable work, such as, if in their possession, will prevent physicians, whether in town or country, from being taken by surprise, when the small pox appears either sporadically or epidemically. With such references as furnished in the plates of Dr FISHER, they cannot, as heretofore, plead the excuse of ignorance for being first betrayed themselves, and subsequently betraying the community into errors of opinion and practice, alike subversive of social duty, and personal safety and comfort.

ARTICLE XVI.—*De l'Irritation et de la Folie, ouvrage dans lequel les Rapports du Physique et du Moral sont etablis sur les bases de la Medecine Physiologique. Par* F. J. V. BROUSSAIS, D.M. *&c. &c. Paris*, 1828. *Pp.* 590.

We must be satisfied at this present time with little more than the mere annunciation of a work, which, as well from the celebrity of its author, as from the importance of the matters treated in it, has already given rise to very lively and prolonged discussions between both physicians and philosophers of different sects.

Professor BROUSSAIS appeals at once to the authority of LOCKE, CONDILLAC, and CABANIS, against the reveries of PLATO and the transcendentalism of KANT.. We had, says he, a right to expect that the progress made in experimental medicine by HALLER, CHAUSSIER, PINEL, and BICHAT, and our consequently improved knowledge of functions, in the circle of which the operations of mind essentially enter, would have given physiology and medicine a right to dictate laws to ideology, and forever protected our science from the invasion of the ephemeral systems of sectarian philosophy, flanked by their scholastic subtleties and verbal quibbles. But kantoplatonism passing from Germany has been warmly received in France, and under the name of *spiritualism* finds able supporters and ingenious expounders of its mysteries. The object of the author of the present work, is to contrast this doctrine of phrases with the physiological system of facts, and to show at once the obscurity of the former, and the firm basis presented by the latter. He wishes to prove definitively to all those who have devoted the best years of their life to the study of anatomy, physiology and pathology, that the science which they have cultivated with so much labour, is not, and never can be tributary to metaphysics; that it can derive nothing from this latter; and in place of receiving the law, it ought to dictate it; but as to an ungrateful child which forgets and despises its parent.

Influenced by this paramount truth, he has exhibited the connexion between the phenomena of instinct and intellect, and the excitation of the nervous system. To the subject of nervous irritation he has given all the development which its importance required. The first three hundred and thirty pages of the work are devoted to this branch of the inquiry. The remainder gives the application of the doctrines of nervous irritation to insanity—a disease selected by the author, as that in which this morbid phenomenon plays the most important part.

With what success M. Broussais has performed his task is a question which involves too great a variety of considerations to allow of our replying to it on this occasion. Hereafter we hope to place before our readers such an ample exposition of the contents and arguments of the work as shall enable them to form, for themselves, a pretty accurate judgment of its merits.

Article XVII.—*Experiments to establish a Peculiar Physico-Organic Action inherent in the Animal Tissues, called Endosmose and Exosmose. By* Joseph Togno, M.D., *Member of the Philadelphia Medical Society. Philadelphia*, 1829. *Pp.* 23.

These experiments are a repetition of the ones first devised and performed by Dr Dutrochet of Paris. A full analysis of the work of this distinguished physiologist, in which the subject is examined in its different bearings, was placed before our readers in the sixth volume of this Journal. A reference to that review will free us from the necessity of any detailed notice of the present essay. We must not however dismiss it without expressing our sense of the industry and fidelity evinced by Dr Togno in his experiments on endosmosis and exosmosis. He follows ably in the track of other alumni of the Medical College of the University of Pennsylvania, who have contributed to enlighten us on experimental physiology. An allusion to these gentlemen is sufficient to remind most of our readers of the labours of Dr Horner in his repetition of the experiments of Le Gallois and Brodie; of Drs Harlan, Lawrance and **Coates** on absorption; of Dr **Hopkinson** on the functions of the nerves as taught by Mr **Charles Bell**; of Dr **Pennock** on the operation of cupping glasses in poisoned wounds, as illustrated by the experiments of Dr **Barry**; and several others, who, in a more elaborate notice than the present, would be entitled to no mean place.

Dr **Togno** introduces the account of his experiments by a brief but pertinent sketch of the history of the theories held on the process of absorption, the chief of which he specifies: as, 1st. Physical. 2d. Chemical. 3d. Vital.

The three lines of dedication to Dr **Chapman** which the author of the essay gives from his favourite **Dante**, were not, we are sure, intended as a mere passing compliment to the distinguished professor, nor oblique praise of himself. We would press on his attention the assertion in the last line as a thing not yet fulfilled in his own case.

He will allow us to say, that it is a matter of no easy attainment for an Italian to become so thoroughly versed in all the beauties and delicacies of the *Lingua Toscana*, as to proclaim himself professor of *lo bello stile*. How much more time and perseverance, then, are necessarily demanded from this same person before he can hope to be conversant with a language so copious as the English. A long, very long period of patient and repeated trials, aided by friendly criticism and a perusal of the best writers, must elapse ere he can realize the words of the immortal Florentine, as quoted by Dr **Togno**, and say, in allusion to himself and his chosen model in his adopted country, "I have caught from you

"'*Lo bello stile che m'ha fatto onore.*'"

Article XVIII.—*Journal of the Philadelphia College of Pharmacy. Edited by* **Benjamin Ellis**, M.D. *Professor of Materia Medica and Pharmacy in the College, assisted by a Publishing Committee, consisting of* **Daniel B. Smith**, **Charles Ellis**, **S. P. Griffitts, Jr**, *and* **George B. Wood**, M.D. *Professor of Chemistry in the College. Published by the College. No. I. April* 1829. *Pp.* 80.

It gives us much pleasure to announce to our readers, the resumption of the publication of this Journal, on a plan, which, in all probability, will insure its continuance for the future. Every enlightened physician, who has the good of his profession at heart, must hail, with satisfaction, every effort intended to improve the science of pharmacy, so intimately is it connected with an advanced state of medical science.

The Journal, on its new plan, is to be published in quarterly numbers of eighty pages each, instead of the former plan of monthly numbers. It is intended to consist of original essays, and copious extracts and translations from foreign and domestic journals, on subjects connected with pharmacy.

The number now before us, contains two interesting experimental memoirs; one on Copaiba, by Mr ELIAS DURAND; the other on Opium and some of its constituents, by Dr EDWARD STAPLES; and a copious miscellaneous department of extracts and translations.

We feel satisfied that this publication will be productive of much good, as well in raising the scientific attainments of our apothecaries, as in producing a proper ethical feeling, regarding what is due to themselves as men of science, and to the community. We hope to see the day, when no respectable apothecary will consent to become the agent of quackery, and thus render himself accessory to the gross impositions thereby practised on the public. It is in vain to attempt to justify this disreputable course, by alleging that if the public are willing to buy secret medicines, it is their concern; and the apothecary may, with a safe conscience, sell, and pocket the profits, rather than let these go to enrich others. Such a course of reasoning would go to justify the sale of opium to the known opium-eater, and of brandy and alcohol to the drunkard; it would make the members of a highly important profession, accessory to the injuries which mankind are willing to inflict upon themselves, through ignorance or criminality. We sincerely hope, that the college will look to this crying abuse, for the credit of pharmacy in our city.

From the known talents and industry of the gentlemen to whom has been intrusted by the college the conducting of the Journal, we augur favourably of its success. If even a small portion of the apothecaries in the United States were to feel sufficient "esprit du corps" to support this Journal, its patronage would be ample. Let us hope then, that they will see this subject in its true light, and be sensible, that whatever raises their profession in public estimation, is personally useful to themselves.

Quarterly Summary

OF

Medical and Surgical Intelligence.

I. ANATOMY.

1. *The Ear; Nerve of the Tensor Tympani Muscle.*—The Journal des Progrès, from the Repert. d'Anatomie gives the following as the real anatomical arrangement of this nerve. At the posterior and inferior portion of the inferior maxillary foramen is found a nervous ganglion of considerable size, irregular in shape, of a reddish gray colour, and strongly adherent to the inferior maxillary nerve. From the posterior and upper part of this ganglion, two nervous filaments pass off, the first or uppermost of which, already known, contributes to the formation of the nervous anastomosis of Jacobson; the other, or inferior filament, is destined to the tensor muscle of the membrana tympani. It proceeds backwards, and a little upwards, and at the distance of three or four lines, reaches the internal and posterior surface of the muscle. At the point where the muscle becomes fleshy, the nerve divides into several filaments, which dip between its fibres and are lost among them. This nerve corresponds to the internal part of the middle meningeal artery, and upper part of the eustachian tube, where the bony and cartilaginous portions become united. It is found underneath the nervous filament, which contributes to the formation of Jacobson's anastomosis with which it is parallel, and above the spinous apophysis of the sphenoid bone.

From the above, it is evident that this nerve is derived from the ganglionic system.

2. *Nature of Hydatids.*—M. Collard de Martigny, in the Journal de Chimie Médicale, has published some additional remarks, of which the first consists of an account of the liquid contained in the membrane of hydatids.

M. C. states, that this liquid is colourless or of a slightly yellowish tint, limpid, of a nauseous odour, rather heavier than distilled water, and containing in suspension amorphous flocks of albumen, which are deposited by a state of rest. It does not coagulate by heat, but a few flocks of albumen become precipitated. Its constitution, approximatively, may be stated as

Water	96.50
Albumen	2.90
Salts, of which the chief is chloride of sodium (common salt)	.60
	100.00

In the microscope no traces of organic globules are to be detected.

M. C. proceeds to make some observations on the *hydatide mère*, which he represents as transparent throughout; of variable thickness; of a whitish yellow colour for the most part, and yellowish brown in many places; heavier than water; of slight consistency, and almost destitute of elasticity; soft, of a nauseous odour, and of a homogeneous texture. The parts of the cyst, which are coloured yellowish brown, are the least consistent.

A cyst is composed of superimposed layers, amounting to five in number. The two innermost ones are the thinnest; next the two outer ones; and the middle one, much the thickest of all. They may be counted with the naked eye. The number of layers varies in different specimens.

Dried in the open air, the cyst becomes contracted, more transparent, hard, very brittle, with a smooth vitreous fracture. In this state when placed in water, it rapidly reassumes all its primitive qualities.

M. C. here gives the results obtained by numerous reagents, which we shall not detail in this place; but from the whole of them, he deduces that hydatids are chiefly composed of two kinds of animal matter; namely, *albumen*, and another *substance* in much larger proportion than the former, and endowed with certain properties sufficiently peculiar to distinguish it from all other proximate animal principles.

Its physical properties are enumerated as follows: When hydrated, it is of a soft consistence, almost pulpy, and has an appearance similar to that of mucus or animal jelly. Its odour is nauseous; its specific gravity greater than that of distilled water. When dry it is transparent, very brittle, presenting a vitreous fracture. In water it reassumes its physical properties. On hot coals, it swells and gives out the odour of burnt horn.

The sulphuric, nitric, and muriatic acids dissolve it, but do not become coloured thereby. It is insoluble in acetic acid and ammonia, alcohol, ether, and in water, whether hot or cold. Solution of nutgalls has no effect on it.

M. C. says, that as the peculiar matter of hydatids resembles, in some respects, mucus, he at first gave it the name of *mucus hydatidine*; but since then, he repents of having given it that denomination, against which he will always protest; for it is best not to classify, by remote analogies, a substance whose specific characters lead him to regard it as a pathological principle of a peculiar nature.

M. C. confesses his incredulity as to the *animalization* of the hydatid; and says that, with great respect for the microscopic accuracy of the learned and ingenious, he cannot but wish, that the organization of a worm, as large as a man's head, were not exactly concentrated in a microscopical point.

3. *Professor* HUSCHKE *of Jena on the Structure of the Kidney.*—M. HUSCHKE's examinations have been made on the kidneys of mammiferæ, birds, and reptiles. In the kidney of man, the horse, &c. under the air pump, he succeeded in injecting the tubuli uriniferi from the ureters. The injection penetrates into the calices, and even into the cortical canals of FERREIN; so that the surface of the organ is wholly tinted by it in the horse, partially so in man, and other mammiferæ. Commonly, the uriniferous canals are alone filled; sometimes a small portion of the injection reaches the venous network, but never the granulations of MALPIGHI. The tubes of BELLINI, says HUSCHKE, commence at the papillæ, subdivide by bifurcation, and proceed in straight lines, diverging from each other. When they reach the cortical portion, they form the pyramids of FERREIN, by uniting in fascicles. At the surface of the organ, they proceed in a tortuous course, and contract by degrees as they return towards the medullary portion, without however entering it again.

4. WEDMEYER *on a Canal in the Optic Nerve of the Fœtus.*—M. WEDMEYER, in examining the eye of a fœtus of five or six months, found that, by gentle pressure on the globe, he could cause the vitreous humour to escape from the cut extremity of the optic nerve.

By repeated experiments, he discovered, in the cut surfaces of other optic nerves, a black point, in which there was a round opening, and through which, by the slightest pressure, the vitreous humour could be forced out, even when the nerve had been left half an inch long. He, also, found a corresponding opening in the centre of the nerve, where it begins to expand into retina. He could never determine the existence of such a canal in the *cerebral* portion of the nerve. M. TREVIRANUS, to whom M. W. communicated his observations, considered the opening as artificial, and produced by the pressure. M. W., however, ascertained that it can never be found after the seventh month of utero-gestation.—*Archives, March* 1829.

5. CALMEIL *on the Spinal Marrow.*—M. CALMEIL states that the posterior groove penetrates as far as to the grey lamina that unites the lateral fascicles of the grey substance.

The existence of a central canal of the spinal marrow has been long acknowledged, but regarded as a preternatural state of the organ. M. C.'s observations confirm this idea, but go to show, that this is a more common case than it has been imagined to be. When he saw it, the canal existed in lieu of the gray lamina, which is attached to the longitudinal commissure of the medulla. He has also ascertained that the lateral canals, mentioned by NYMANN, GALL, and H. CLOQUET, have been sometimes found with such characters as hardly to admit the belief that they were artificially produced. He gives a curious case of a madman, in whose spinal marrow three canals were found, one central and two lateral.

M. C. says that we ought not to regard autopsic examples of softened spinal marrow as proofs of that change having taken place during the lifetime of the subject. It occurs in winter as well as in summer. The gray matter softens and even liquefies in a few hours; the white undergoes this change more slowly. It is very common to find the white matter in a natural state, while the grey is humid and almost diffluent.

II. PHYSIOLOGY.

6. BONORDEN *on the Circulation.*—In an article on the circulation, which is contained in the Journal des Progrès, Vol. XII., Dr BONORDEN has broached a new view of the causes of that great phenomenon. He asserts that the blood's motion depends upon a principle independent of the mechanical operations of the heart! The principle which he contends for operates by attracting the blood into the organs, and gives us the idea of a vital current passing from the centre to the periphery of the body, like those light substances which are first attracted to an electric body, and then repelled from it. The blood is attracted by the organs and then forced off from them by the veins, as soon as the organs have appropriated to themselves such molecules as are necessary for their own proper nutrition, and other functional services.

Now to our view, this seems to be the highest example of that busy spirit which would upset the whole structure of things established, for the gratification of a merely innovating appetite. For us, we cannot see how any one who has studied the structure, and in the slightest degree reasoned on the functions arising from the mechanical constitution of the heart, could by any inversion of the senses, be led to such conclusions.

7. *Occlusion of the Larynx not inconsistent with Voice.*—A young man, having cut his throat, was taken care of and the wound healed, leaving an external opening in the throat; but the larynx became completely occluded. M. RENEAUD, who was consulted by the patient for a chronic inflammation of the air passages, found the occlusion complete; and notwithstanding, he could pronounce the vowels *a, e, o*—but not the letters *m, n*.

The patient having died of the bronchitis, M. B. found on examination that a communication had been formed between the windpipe and pharynx by the wound, which had remained open. The patient could spit, and also whistle.

8. *Proportion of Sexes in France.*—At a session of the Royal Institute, November 24th, 1828, M. FOURIER made a verbal report on the work of M. GIROU DE BUZAREINGUES, entitled Statistical Researches on the relative predominance of the two sexes in the different departments of France.

The observations of the author were made both on men and the inferior animals. Whenever he caused, in the lower animals, a very young male to unite with a female of full age and vigour, he obtained more females than males; and the contrary was the case, when the male was vigorous and of full age, while the female was of middle age; and M. DE BUZAREINGUES hence concludes that in the lower animals, the sexes can be propagated at pleasure on our farms, giving us at will a greater proportion of males or of females as may be most desirable.

The doctrine is that wherever the motorial or active forces predominate, there will be a predominance of males; but where there is a diminution or inferiority of the active forces, females will be propagated. Hence arises a delicate question for the political economists. M. DE BUZAREINGUES says, that agricultural pursuits, and all those occupations which require great bodily exertion, are calculated for the development of the active forces; and he finds that, in the agricultural districts of France, there is a decided excess in the number of males produced, while in the commercial and manufacturing districts the number of females is greater.

9. *Proportion between the Nervous System and other parts.*—M. TIEDEMANN has reported several cases of defective development of the spinal marrow, as correspondent to a congenital absence of the limbs; and, on the other hand, cases of excessive development of the brain and nerves having relation to the existence of supernumerary organs. M. T. regards these phenomena as constantly observable in such cases. The professor concludes, that the nervous system, as being the first existing part of the animal, regulates the formation, and ulterior development of the embryo, and determines the particular form and disposition of the other organs.—*Archives, March* 1829.

10. *Sense of Touch.*—The presence, in insects, of the ganglion which represents the brain, is not absolutely necessary for the existence of the sense of touch. After decapitation, they feel, on the surface and in their limbs, by means of their other ganglions, such impressions as may be made on them. The spinal marrow of reptiles, young birds, and young mammiferous animals, seems also capable, after the ablation of the brain, of being modified by irritations, of feeling them, and of occasioning, in consequence thereof, *durable* and *calculated* movements, which are not to be confounded with those convulsive and fugacious motions, that are attributable solely to irritability. M. CALMEIL thinks this faculty of the spinal marrow is probably diffused throughout its whole extent. Farther, it is probable, that, in the natural state of our functions, the brain is the sole centre of irritability, and that the spinal marrow only becomes sensible, when the brain ceases to exist. The co-ordination of our voluntary motions is doubtless attributable only to the brain.

11. *Inoculation for Hydrophobia.*—M.M. VATEL and GIRARD, at the Veterinary School of Alfort, inoculated a horse, two dogs, and three sheep, with the saliva of a sheep which gave symptoms of madness after having been bitten by a rabid dog. Not the least indisposition resulted from the inoculation, although the animal from which the saliva was taken died soon afterwards.—*Journ. des Progrès.*

III. PATHOLOGY.

12. *Hydrophobia.*—In RUST's Mag. f. die gesammt. heilk. Vol. XXVIII. No. 3, 1829, two cases of hydrophobia are related by Dr. FUCHS, with the morbid appearances discovered after death. The leading symptoms of the disease in both, were the same, very nearly, as those which occurred in almost all the cases upon record; it is unnecessary, therefore, to enter into their detail. The first case occurred in a lad 15 years old. On the 4th of October 1825, he was bitten by a cat on the back of his hand. The cat was destroyed though it did not appear to have been affected with rabies. Upon the 17th of November following, the peculiar symptoms of hydrophobia presented themselves. Immediately subsequent to the bite, the wound had been treated with caustic, and well sprinkled with powdered cantharides; mercurial ointment was rubbed into the forearm, and four grains of belladonna administered internally. The patient died on the morning of the 19th of November. *Sectio Cadaveris*, 12 hours after death. The only morbid appearance discovered in the brain, was a slight softening of its substance: its membranes were not inflamed, nor was there any trace of exudation. The spinal cord, from the medulla oblongata to the cauda equina, was covered with a layer of coagulable lymph. Its dura mater was in a state of inflammation, being at its lower part of a deep scarlet colour. This was also the case about the roots of the nerves distributed to the muscles of the trunk and extremities. On cutting into the substance of the spinal marrow, it was found in a state of complete softening, flowing before the knife like a soft pap: in this softened substance no bloody points were discoverable. The viscera of the thorax were healthy with the exception of a considerable engorgement of the inferior lobes of the lungs. The bronchia were free from disease. On examining the tongue, there were found upon its upper surface, near its root, from 40 to 50 small brownish elevations, regularly arranged on each side, and having nearly the size and appearance of the projections upon the surface of the toad. They were covered with a thick, tough membrane, and very generally presented in their centre a small black point. By a more careful examination it was found that each projection was a vesicle, containing a fluid resembling lymph, and not the natural papillæ of the tongue enlarged by disease. The tongue was otherwise unaffected. In the pharynx, no traces of disease. Salivary glands, not swollen. The viscera of the abdomen, of a natural appearance.

The second case occurred in a girl 10 years old. On the 22d of November, 1825, she had been bitten by a dog, upon the right arm and eyelids. Blisters were immediately applied over the wounds of the latter, while that of the arm was cauterized and kept in a state of free suppuration for eight weeks. After this, four grains of belladonna were administered daily. The symptoms of hydrophobia commenced on the 14th of May 1826. The treatment consisted principally of the ext. belladon. internally, and externally blisters over the right eye, and to the right arm, and frictions with mercurial ointment upon the lower jaw, the arms, and thighs. The patient died on the 16th of May. *Sectio Cadaveris*, 24 hours after death. The entire extent of the spinal cord being laid bare, on its external surface, but few traces of inflammation were perceptible. The pia mater was covered with striæ of a deep red colour. The spinal marrow itself was reduced entirely to a soft pulp, which flowed out upon the slightest pressure. No points of blood perceptible. The brain was somewhat softer than natural. An incision being made into it, the cut surface of both the cortical and medullary portions appeared thickly studded with small bloody points. Its veins were moderately filled with blood. As in the former case, the posterior part of the surface of the tongue was beset with numerous vesicles; but irregularly dispersed, of a bluish-red colour, and without the black point in the centre. They were of different sizes, from that of a pea downwards, mostly in contact, not surrounded by any redness, and containing a thickish fluid, which did not escape on their being opened, but in part adhered to the knife. These vesicles gradually diminished, until about the middle of the tongue, where they were entirely wanting. Slight traces of inflammation were perceptible upon the pharynx. The remaining viscera of the body were in their normal condition.

In the London Medical and Physical Jouınal for February 1829, we have likewise a case of hydrophobia, related by Mr GOODRICH. This occurred in a man about 60 years of age, who had been bitten by a dog on the left arm and hand about a month previously to the occurrence of the disease. The treatment consisted of tolerably free venesection, and the administration of the hydrocyanic acid. Death occurred in about 27 hours. On examining the body, the heart was found free from disease, with rather more water in the pericardium than natural. The lungs were completely gorged with grumous blood, and the pleura adhered on the right side. On removing the cranium, which was remarkably thin, and cutting into the substance of the brain, the medullary portion appeared thickly studded with red points. There was about a table spoonful of water in each ventricle. The plexus choroides was turgid; the corpora striata, thalami, and basis of the brain, preternaturally injected. The cerebellum, crura cerebri et cerebelli, in a high state of inflammation. The spinal cord was throughout considerably inflamed. Opposite the two last cervical and dorsal vertebræ, the cellular substance was studded with dark patches of coagulated blood, and the theca vertebralis thickened. The larynx and pharynx presented not the slightest vestige of disease.

The subject of hydrophobia appears of late to have attracted considerable attention among the profession in Europe. In addition to the cases already detailed, we have in a recent number of the Archives Gen. de Médecine, (December, 1828,) a paper by M. Méniére, entitled "Recherches Anatomiques et Thérapeutiques sur l'Hydrophobie." This gentleman found, as the result of his researches into the morbid anatomy of this disease, that the cerebro-spinal system was injected with blood and of a red colour, as in some cases of acute meningo-encephalitis. The heart was soft, dilated, and engorged with blood. The aorta was occasionally of a bright red. The lungs were often emphysematous; most commonly, however, they were engorged, but crepitant. The mouth, pharynx, and œsophagus almost always presented traces of phlogosis, more or less intense. The same was remarked in the digestive organs. In many subjects the cerebellum was more soft than natural. Of two individuals, in whom death had been preceded by an erotic spasm with ejaculation of the semen, in the encephalo-rachidian organs of the one, was found no other trace of disease than a red spot, of about three lines in diameter, occupying the centre of the annular protuberance, and resembling an ecchymosis; of the other, the cerebro-spinal pia mater was injected, and the cortical substance of the brain much softened. In neither was there any softening of the cerebellum. With respect to the time which elapsed between the bite and the invasion of the disease, this varied in different cases from three weeks to a year. The duration of the confirmed stage of the disease, from the commencement of the spasm of the respiratory organs and the convulsions, with or without furor, was very short, rarely exceeding twenty hours. The period of invasion, marked by depression of the spirits, disturbed sleep, frightful dreams, undefinable uneasiness, pains in the back and limbs, cephalalgia, loss of appetite, &c. was in general of some days' duration.

18. *Tetanus.*—A female, 44 years of age, accustomed to remain for some time with her legs immersed in water, experienced, October 8th, great difficulty in moving the lower jaw, with a feeling of rigidity of the muscles of the neck, and a stiffness of the limbs. On the 10th she entered the "Hôpital d'Udine;" labouring under considerable tetanic contractions of the trunk and limbs, with violent trismus. The latter was greatly relieved by a warm bath. The trunk was bent backwards, the limbs extended and stiff, breathing frequent and stertorous, abdominal muscles but little contracted; bowels costive; urine small in quantity; pulse strong and frequent; skin hot and dry; intellectual faculties not in the least impaired; and sensation perfect in every part of the body. Thirst great; tongue red and dry. The symptoms augmented in intensity until the period of her decease, which took place five days subsequently to the attack. The body

was examined 24 hours after death. The brain was without disease. In the spinal canal, there was found an increased effusion of serum mixed with blood. The arachnoid membrane of the cord presented no alteration. The pia mater gave evidence of an increased action of its vessels having existed: this was more apparent on the anterior than on the posterior aspect of the cord. The medulla spinalis presented, anteriorly, a multitude of granular bodies, in size from a grain of millet to that of a lentil: it was very soft, and seemed entirely formed by the agglomeration of these granular bodies. In colour it was of a light yellow, and on its anterior surface, at different parts, small red points were observed. Its posterior half was perfectly healthy. The white substance appeared to be the part in which the greatest alteration had taken place: the grey substance was apparently unaltered. The filaments of the anterior spinal nerves, were, at their origin, sensibly diminished in thickness, and of a yellowish colour, very soft and easily lacerated: in the course of several of them, there existed small tumours similar to those on the anterior part of the medulla spinalis. The posterior nerves were unaffected. The cavity of the chest contained a considerable amount of bloody serum; the stomach and intestines exhibited slight traces of inflammation; the kidneys were of a brownish red, and gorged with blood; the bladder was much contracted, and contained but little urine. The above case is related by Dr Poggi. For our account of it, we are indebted to the London Medical and Physical Journal, Feb. 1829. It is noticed here principally with the view of showing the similarity of the morbid appearances discovered after death in tetanus and hydrophobia. It proves also the difference in the functions of the spinal nerves: sensation was perfect until death; the motive power alone being affected. The anterior nerves, those supposed to preside over motion, were alone in a diseased condition; the posterior nerves, or those of sensation, were found to be unaffected.

14. *Myelitis.*—The following case of myelitis is extracted from the very recent work of M. Barbier, "Précis de Nosographie et de Thérapeutique," Tome II. p. 235. The reader will notice the resemblance between the symptoms during life and the appearances after death presented by this case, and those which occur in hydrophobia. In November 1822, there was admitted into the Hôtel Dieu at Amiens, a girl 16 years old, who had not yet menstruated. For two months she had complained, at intervals, of pains in the head with heat and heaviness. On the evening previous, she had been suddenly seized with violent convulsions, which recurred in paroxysms at intervals of two hours. Throughout the body she experienced shocks like those of galvanism. She had the free exercise of her senses and intellect. Deglutition was performed with great difficulty. Her respiration was oppressed; the pulsations of her heart were irregular, hard, and so extensive, that the organ appeared to fill the whole chest and elevated the sternum. The pulse was unequal and very irregular, and the abdomen tumid. Next day, the patient was, as it were, apoplectic, with loss of feeling and motion, and great difficulty of respiring. The pulsations of the heart were the same as on the preceding evening; those of the radial artery were tense, very quick, and irregular. In the course of the day the patient died. On examining the body there was discovered an increased development of the vessels covering the spinal cord. Towards the first dorsal vertebra, to the extent of three fingers' breadth, there was an entire softening of the medulla spinalis; the softened matter being infiltrated with blood. In the brain, there existed a very decided congestion of blood, which had occurred, no doubt, the day the patient died. The vessels of the surface of the brain were enlarged and distended, as were also those which penetrated the substance of the organ.

15. *Delirium Tremens.*—In Rust's Magazine for 1829, No. 3, Dr Schirlitz relates a fatal case of delirium tremens, with the appearance of the brain after death. It occurred in an habitual drunkard. The symptoms of the disease were well marked. The treatment consisted of the application of twelve leeches to the forehead and temples; of injections of cold water into the rectum twice a

day; cold applications to the head; blisters to the nape of the neck, and every two hours one grain of calomel and one-fourth of a grain of opium, with a spoonful of a mixture of infusion of valerian and liq. ammon. acet. between each dose. He died on the ninth day of the disease in "apoplectic convulsions." The skull being opened, forty-eight hours after death, the dura mater was found inflamed; the vessels of the brain somewhat engorged with blood, the lateral ventricles containing about six ounces of a clear fluid. The examination was not permitted to be carried any further.

16. *Melæna with Hardening of the Pancreas.*—Under this head, a very interesting case of gastric and abdominal disease, accompanied with discharges of blood from the stomach and bowels, is related by Dr SCHIRLITZ in RUST'S Magazine, No. 3, 1829. Mary M. 51 years old, slender make, and of a meagre habit, with a jaundiced hue of the skin, had, from her 15th year, suffered frequent attacks of pain in the stomach, extending towards the back, accompanied with a vomiting of a watery fluid. The patient had ceased to menstruate for about a year. The discharge had always been trifling and attended with pain in the loins. In the commencement of July 1827, the pain in the stomach augmented greatly in violence. She had taken a variety of remedies without the advice of a physician. Dr S. saw her for the first time, September 12th, 1827. She was lying in bed, her knees drawn up to the abdomen, complained of a severe pain in the epigastrium and left hypochondrium, and was greatly exhausted. She had constant eructations, had twice vomited blood, and passed a quantity of the same—black, coagulated, and of a fetid smell—by stool. There was a very distinct pulsation at the epigastrium. Besides these symptoms, she was subject to horripilations, cold clammy sweats, violent pulsation of the heart, frequent faintings, ringing in the ears, and constant dragging pain at the spine. Her breathing was short and attended with a dry cough, and her pulse small and scarcely perceptible, disappearing under the fingers. Cold applications were directed to the epigastrium, and internally acetic ether; with sulphuric acid and water for drink. By this the disposition to faint was entirely removed, and the pulse somewhat raised. In the evening the abdomen was tumid, and the epigastrium very painful. Tamarind water with cream of tartar for drink; an injection of whey. On the 16th severe eructations; about 6 ounces of blood discharged by stool: the patient had taken some thin soup, which caused severe pain of the left hypochondrium, extending to the loins. The pulsation at the epigastrium was so considerable as to be perceived by the eye; pulse small, 90 in the minute. Seven leeches were applied to the anus. September 22. During the four last days, three discharges per anum of a black, bloody fluid resembling tar. The patient is now only able to lie on the left side; great debility; pulsatio epigastrica considerable; great thirst; frequent, small pulse; severe pain in left hypochondrium. The symptoms continued pretty much the same, the vomiting of blood being occasionally repeated, with discharges per anum of an offensive tar-like fluid, until the 25th, when the fæces became natural in consistency and colour, and the patient was able to turn on the left side. To relieve the pain which still continued, from six to eight drops of laudanum were directed during the height of the paroxysm. Whey clysters were administered, and a solution of acetate of potassa, with ext. tarax. et gram. by the mouth. The patient had now from two to three natural stools per diem. On the 7th of October, the vomiting of blood returned, with the morbid discharges from the bowels already alluded to. There was constant pain of the epigastrium; the pulsation at the latter very considerable before each attack of vomiting; the abdomen tumid, but soft. From constant pain and loss of sleep the patient now sank rapidly. She could lie only on the right side with her knees drawn up. On the 12th a great quantity of blood was discharged from the stomach, and on the 13th she died. *Sectio Cadaveris.* Both lungs adhered to the pleura—their parenchyma studded with tubercles of the size of a pea. Heart natural and filled with coagulated blood. The liver without any mark of disease; the gall bladder rather large, and nearly empty. The stomach filled with coagula of blood; its mucous mem-

brane of a deep red colour. The mucous membrane of the duodenum, studded with numerous black points. The transverse arch of the colon distended; its inner surface covered, as was also that of the intestines generally, with a black, pitch-like substance. The pancreas was somewhat enlarged, and of so firm a texture that the scalpel could scarcely penetrate into it.

17. *Congenital Ovarian Dropsy.*—A female child, 17 days after birth, died suddenly of convulsions. On examining the body, the lungs were found engorged, and at their lower part hepatized. The mesenteric glands were considerably enlarged and hardened. The peritoneal covering of the intestines had a peculiar yellowish wax-like appearance. The uterus was natural. On cutting into its cavity, on its posterior surface, a prominent line, marking the original division of the fœtal uterus into two parts, was very apparent. But the most remarkable circumstance was the condition of the ovaries; both of which consisted of a sac filled with a watery fluid, and of the size of a hen's egg. Each sac was divided into 16 cells. The serous fluid by which they were filled, contained a considerable quantity of a thickish sediment. The foregoing case is related by Professor MAYER, of Bonn, in Graefe and Walther's Jour. für Chirurg. &c. Vol. XI. No. 4, 1828. In concluding the account, he remarks, that this dropsical state of the ovaries could not have been formed during the few days the child lived subsequent to its birth; but must be considered as congenital. It is well known that the ovaries, when affected with dropsy, contain frequently, portions of bone, teeth, hair, &c. Is it not more than probable that this condition of the organs is connected with a congenital disease of these parts?

18. *Peculiar Eruptive Disease epidemic among Children.*—It is stated in Rust's Magazine, 1829, that Dr STRECHER of Dingelstädt has observed among children, most of whom had been already affected with scarlatina, a peculiar acute eruption, commencing with tolerably severe febrile symptoms and vomiting. The pulse quick and hard, the skin dry and hot. There was severe pain of the head and inclination to sleep; great thirst, and sometimes delirium. With these symptoms there quickly appeared an eruption, principally confined to the neck, breast, and upper part of the abdomen, of a deep red, similar to erysipelas, interspersed with numerous small papulæ, resembling those of measles. There was no redness of the eyes, no symptoms of catarrh, nor any affection of the chest. By the third day, the eruption extended itself to the knees, but appeared very slightly or not at all upon the arms and legs. The febrile symptoms continued, in general, for 5 days, or even longer; when in most cases a perspiration broke out towards evening. A desquamation now took place from the whole body, but most extensively from the neck. In some cases, the sudden repulsion of the eruption was followed by inflammation and suppuration of the glands of the neck. The treatment pursued was very simple—in the commencement, the patient was allowed to drink freely of cold water, subsequently of simple elder tea. The disease appears to have been attended with little or no danger.

19. *Rupture of the Hepatic Duct.*—A case of this kind is related by Dr H. WOLFF of Bonn, in GRAEFE and WALTHER's Journ. f. Chirur. u. Augenhiel, Vol. XII. No. 3. The patient, a female 60 years old, had been affected some years before with jaundice, and since had suffered repeatedly from colic attended with nausea and vomiting. The attacks lasted from a few hours to several days: in the intervals she enjoyed tolerably good health. The remedies from which she experienced most relief were HOFFMAN's anodyne, and chamomile tea. Several days previous to the 1st of July 1827, the patient had experienced slight colicky pains. On the latter day, after eating a hearty dinner, she retired to bed, and about 4 o'clock, she was attacked with severe pain of the abdomen, and the food she had eaten was thrown up by vomiting: the remedies already mentioned were resorted to, but without effect. The pulse was natural, the skin cool, tongue clean, bowels lax, the urine clear. In the intervals of the pain, no ten-

derness of the abdomen was experienced upon pressure. Ten to fifteen drops of the liquid laudanum of SYDENHAM were directed. After the second dose, the pain diminished, but returned in the evening. A few doses of the laudanum, however, procured a quiet sleep. At 9 o'clock the patient was awoke by a severe attack of pain; the abdomen was swollen, tense, and very tender to the touch The extremities were very cold, the face was bathed in a cold sweat, and the pulse was very small. The patient was tormented with an insatiable thirst, but rejected instantly every kind of drink. Thirty leeches were applied to the abdomen. The pain augmented every moment, with a constant ineffectual inclination to evacuate the bowels. A blister was now applied, and opium given internally without effect. An injection of mucilage of flaxseed produced a copious feculent discharge: a small quantity of clouded urine was also passed. The symptoms augmenting in violence, the patient sank rapidly, and died at 4 o'clock, P.M. On examining the abdomen, about three pounds of blood mixed with bile were found in its cavity. The intestines were covered with the same, and at different points presented traces of inflammation. On the lesser omentum there was observed a dark coloured spot, several inches in diameter. By a cautious examination at this part, the ductus hepaticus was found torn across; the torn extremities being surrounded by a coagulum, composed, evidently, of recently extravasated blood, and previous exudations of coagulable lymph. The liver was sound. The gall bladder was moderately filled with bile, and contained also eight brownish-green, angular concretions, of the size of peas. The smallest of these was thrust into the opening of the cystic duct; but did not entirely close the canal so as to prevent the passage of the bile. In the remarks which accompany this case, it is presumed that the patient had laboured for a considerable time under an inflammation of the biliary ducts, giving rise to the effusion of coagulable lymph. The attacks of colic are supposed to have been occasioned by the irritation of the gall stones passing into the inflamed duct. The rupture which took place on the morning of the 2d July, was caused by a violent contraction of the diseased ductus hepaticus.

20. *Catalepsy with Fever.*—A young soldier, whilst engaged alone in some military duty, became suddenly completely torpid. He was accidentally discovered, some time afterwards, lying on the ground, in a state of complete insensibility, and "stiff as a statue." His limbs, however, could be readily moved, and retained completely the position in which they were placed. In about an hour, consciousness returned, and his body became covered with a profuse perspiration. On the succeeding day he was seen by Dr JAGER, regimental surgeon, by whom the case is related in GRAEFE and WALTHER's Journ. f. Chirurg. u. Augenheilk. No. 3, 1829. The symptoms were as follows. Pulse, full, hard, and quick; eyes glassy and injected; pupils contracted; respiration quick and oppressed, with considerable thirst, burning heat of the skin, ardor urinæ. On the succeeding day, the patient had two attacks of genuine catalepsy: during these, the limbs remained fixed in the same position they were in immediately preceding the attacks. He was at this time in a recumbent posture, but subsequently he was attacked while standing, sitting, or walking. The paroxysms, however, were less intense, and of shorter duration. Dr J. had him twice bled, to the extent of fifteen ounces each time, directed cold applications to the head and abdomen, with active cathartics internally. By these means the febrile symptoms were entirely removed. To suspend the attacks of catalepsy, a powder, composed of calomel, flores zinci, and hyosciamus, of each half a grain, was administered every three hours. By the continuance of this remedy for four weeks, the paroxysms were reduced to one in 24 hours, of a few minutes duration. The patient was now placed on the use of a saturated decoction of bark. In fourteen days the paroxysms were entirely suspended, and he was discharged cured. The latter attacks were at intervals of six days, and lasted but two minutes each.

21. *Case of Worms simulating Acute Hydrocephalus.*—In the autumn of 1828 M. **Menard** was called to a boy 8 or 9 years of age, who had been confined to bed for about four days; he complained of acute pain in the fore part of the head: the pulse was small, not very frequent, and contracted. He lay upon his back, was averse to the light, and his respiration was slow and panting. Every symptom led the doctor to fear a cerebral inflammation. The usual remedies were accordingly resorted to. The disease, however, rapidly progressed, and soon the intelligence of the patient was destroyed, and his vision affected. Emaciation was extreme, and after some days the patient was so reduced that he appeared every moment ready to expire. M. M. having employed without effect all the resources of his art, even to mercurial frictions, the disease was finally permitted to take its own course. The patient craved cold water, which was allowed him in small quantities, at short intervals. This was in fact the only drink that could be swallowed. In a short time the patient commenced to discharge from the bowels a number of lumbricoides in balls; he likewise passed some of the same by the mouth. In this manner he expelled, in the course of from three to four days, about forty. With these discharges his strength was re-established, his intelligence returned, and his appetite for food recommenced. So complete was the crisis that the patient at the end of eight to ten days was entirely convalescent. The above case is related in the *Revue Médicale, Feb.* 1829.

22. *Softening of the Organs and Tissues, not always the Effect of Inflammation.*—In a brief account of the labours of the Athenæum of Medicine for the year 1828, contained in the February number of the Revue Médicale, we learn that M. **Andral**, after an attentive study of the subject of "ramollissement," in all the organs and tissues of the body, and under every various circumstance, has come to the conclusion, that, while there is no doubt the diminution of cohesion is most constantly the result of genuine inflammation, it may, nevertheless, arise in the same organs and tissues from causes of an opposite character. Thus, while there is no doubt that softening of the brain is the effect of inflammation in unequivocal cases of cerebritis, yet there can be no question, he thinks, that the same effect may be produced in the brain by an excess of the white fluids, or by a defect or morbid condition of the nutritive process, as has been observed in infants, females, and old persons. Again, if it is true that the heart, stomach, intestines, and spleen lose their normal density, as a consequence of an acute or chronic phlegmasia, we must at least doubt whether the same effect results from inflammation in those cases of pulpy softening, with complete discoloration of the affected tissues, observed in the stomach and intestines, after certain chronic diseases of infancy; in the spleen, subsequent to intermittent fevers; and in the heart in many cases, in which neither the local nor general symptoms would induce us to believe that inflammation had existed. If the above examples are insufficient "to silence the voice of analogy, which is all that can be adduced in favour of the opinion which refers the production of softening, in all instances, to inflammation," M. **Andral** would then refer to the softening of the muscular fibre in scurvy, of the osseous structure in rickets, of the cornea in infants who have died of marasmus, and in animals deprived of aliment.

23. *Causes of Induration.*—From the source indicated in the preceding article, we learn that the question whether induration is always a consequence of inflammation, has been examined by M. **Bouillaud** with much attention. He conceives that, before we can arrive at any certain conclusion upon this subject, it is necessary to become acquainted with the intimate nature of inflammation and induration, in order to ascertain whether the liquids, equally with the solids, may not become hardened, and, in certain cases, be themselves the principal cause of organic indurations. Having examined this point, he proceeds to show, that inflammation is not always the cause by which indurations are produced. This he conceives to be the case in the hardening of the cellular tissue of new born infants, and in those indurations which evidently depend upon some obstacle to

the venous circulation. "The details, however," says Dr JOLLY, by whom the report, from which this account has been extracted, is drawn up, "into which our colleague has entered, upon the subject of indurations produced by the crystallization, or simple augmentation of the density of the fluids contained in our organs, will prove to you that very many indurations, as for instance callosities, scirrhus, tuberculous masses, and accidental productions of cartilage and bone, are most commonly the terminations of chronic inflammation."

24. *Compression of the Diaphragmatic and Pneumo-Gastric Nerves simulating Disease of the Heart.*—This case, extracted from the Jour. Général des Hôspitaux, occurs in the February number (1829) of the Bibliothèque Médicale. A female, 60 years of age, had for many years experienced a pain behind the sternum and at the base of the chest, which occurred in paroxysms. This pain, which was at first slight, augmented in intensity, preserving however its paroxysmal character, and became soon accompanied with violent palpitations of the heart, difficulty of respiration, œdema of the upper extremities, and a small pulse; in a word, with all the symptoms indicative of an obstacle to the circulation through the superior extremities. This patient remained for two years at La Pitié, during which time her chief complaints were of the pains behind the sternum, and at the lower part of the chest. For a long time she had no appetite; emaciation was extreme; and her voice was remarkably weak. The patient finally died. On examining the body, it was discovered that the pneumo-gastric and left diaphragmatic nerves, the aorta and its branches, and the veins of the superior extremities, were surrounded in different parts of their extent by masses of a scirrhous nature, by which they were compressed, but not disorganized. The heart, which preserved its ordinary dimensions, was of a violet colour, much deeper than ordinary; its tissues, also, appeared softened. The lungs were healthy, with the exception of the right, which presented, at its summit, an excavation filled with blackish blood. In the digestive organs, there was observed the commencement of atrophy; otherwise they were healthy.

25. *Cholera Morbus.*—The Journal Général de Médecine for January 1829 contains a "Memoir upon Cholera Morbus, and particularly upon the Employment and Action of Opium in this Disease," by M. H. CHAUFFARD, Physician to the hospitals of Avignon, presented to the "Société de Médecine" of Paris, and by them ordered to be printed. In this memoir, the author maintains the inflammatory nature of the disease. He states that an examination of the bodies after death has proved to him "that cholera, when it reaches its greatest degree of intensity, should be considered as one of the most serious inflammations of the upper portion of the digestive tube with which we are acquainted." The memoir was referred to M.M. PATISSIER and COLLINEAU, who in their report observe as follows: "The acute character of cholera, the pains by which it is accompanied, the augmentation and altered nature of the secretions, but especially the examination of the bodies of those who have died of the disease, after prolonged sufferings, should cause us to rank it among the inflammations. Nevertheless, we must not forget the extent to which the nervous action is augmented. It should be recollected, also, that the invasion of the disease, as well as the termination of the most important of the morbid phenomena by which it is accompanied, is generally very rapid, and often, sudden; that many of the sporadic cases are produced by affections of the mind; that the discharges from the stomach and bowels return periodically; that in general they are accompanied by cramps, convulsions, and other nervous affections; that the symptoms, characteristic of the disease, arrive at their highest degree of intensity before we can suppose that any alteration of the tissues can have been developed; and finally, that in those violent cases, in which death has promptly occurred, no important lesion has been discovered upon subsequent examination of the bodies.

"From a consideration of all the phenomena by which cholera morbus is characterised, it must be admitted that there exists between this disease and the other gastric and intestinal phlegmasiæ, differences which have not escaped the attention of observers. It is, therefore, not without cause, that highly respectable physicians have ranked cholera as a particular disease; separating it from all other inflammations. Some have even classed it with the spasmodic affections, from the circumstance of the nervous action being frequently predominant, and capable of causing death before inflammation has had time to develope itself."

26. *Intermittent Pulmonary Catarrh.*—In the Transactions of the Medical Society at Lyons, the following case is recorded, in which there occurred complete intermissions in the symptoms of pulmonary catarrh. The case is cited in the Bibliothèque Médicale, for Jan. 1819, with the remark, that it supports the proposition of the physiological doctrine, that, "Irritation may be intermittent, whatever may be the parts in which it is seated."

A sister of Charity, 55 years of age, has had a singular predisposition to catarrhal affections, since she left Provence, her place of birth. She was covered almost constantly with an abundant, cold, perspiration; the suppression of which has frequently given rise to a slight anasarca. About the middle of the winter of 1826, she was affected with a very severe coryza, which disappeared by degrees, while a very violent pulmonary catarrh made its appearance, continuing for three weeks. The return to health was nearly complete when the patient exposed herself in the evening to a cold and humid atmosphere. She immediately experienced a chill of two hours duration, followed by a fever which continued four hours: in the morning an abundant perspiration occurred. During the day, the patient continued weak, but coughed little, breathed freely, and was without fever. In the evening she slept quietly. At 11 o'clock, she was awoke by a violent chill, with considerable cough, and great oppression, but no expectoration. At one o'clock the chill was succeeded by an insupportable heat, with anxiety. The pulse was hard and frequent, and the patient could only respire with any ease in an upright posture. There was violent cough, and a frothy expectoration. At 6 o'clock, a general sweat broke out, and the symptoms were considerably mitigated, and there was an expectoration of mucus which became more and more consistent. She fell asleep, and did not awake for several hours. The next morning she arose without any symptoms of disease, ate and digested well. The next night a paroxysm similar to the above again occurred; all the symptoms disappearing and remaining off during the succeeding day. Similar accessions and intermissions of the disease continued to recur for upwards of five weeks; during which time the patient refused to take the quinia which it had been proposed to administer. Finally, however, she took in the evening, eight grains, sulphat. quiniæ. The succeeding accession occurred later, was without a chill, and of much shorter duration. The remedy producing colic and diarrhœa, it was necessary to suspend its use. The extract. quiniæ affected less the digestive canal. The use of this being continued for some days, the disease was entirely suspended, and the patient became rapidly and completely convalescent.

27. *Cerebral Atrophy.*—At the sitting of the Royal Academy of Medicine, of December 10, 1828, the following case of atrophy of the brain, together with a preparation of the diseased organ, was transmitted by Dr DUFRESNE. A female, 52 years old, seven years previously, had laboured under paralysis, which had succeeded to an attack of apoplexy. The paralysis which had affected the whole of the left side, gradually disappeared; but four months subsequently, the left inferior extremity became gradually contracted and afterwards the right. The contraction was accompanied by violent pains, causing the patient to scream aloud. The nutritive functions were but little affected, and the intellectual and sensitive faculties were unimpaired. Death took place suddenly, during the night, after the patient had uttered a few loud cries. On opening the body, an abundance of serum was found below the arachnoides, in its cavity, and within the ventricles. The cerebral vessels were engorged with blood. There existed on the right side a cavity or sac, formed exteriorly by the arachnoides of the surface of the brain, and internally by the arachnoides of the ventricle. This cavity

was placed between the anterior and middle lobes of the brain: it was filled by a very fine cellular tissue, containing a considerable quantity of a clear fluid. It occupied completely the situation of the corpora striata, which were entirely wanting, and of the optic thalami which were destroyed in great part. The ventricle was more than double its ordinary size. Its floor, to the breadth of more than an inch and a half, was formed by the arachnoides of the ventricle and that of the base of the brain, separated merely by a vascular cellular substance. The middle lobe and right peduncle of the brain had sunk down considerably, and the convolutions were much less prominent than natural. The contraction of the left inferior extremity was so considerable, that the thigh was applied to the abdomen and the heel touched the nates. The acetabulum presented completely outwards; the superior extremity of the tibia was luxated, and placed above and before the condyles of the femur. Dr Gendrin, the editor of the Journal Général, from the February number (1829) of which we have extracted our account of this case, states that he has observed many similar cases. Upon the mode in which the atrophy of the brain is produced, he remarks, that when blood is effused in this organ, it is gradually taken up by the absorbents, and there remains a small serous cavity, produced by the inflammation to which the injury of the cerebral substance around the effusion had given rise. If this inflammation increases to a degree capable of either disorganizing the medullary pulp or of causing a purulent infiltration into the cerebral tissue, the disorganized pulp and the infiltrated substance are gradually absorbed, and nothing remains except the cellular structure of the brain. The augmented amount of fluid, found in the arachnoides and in the ventricles, is not, as M. Dufresne seems to think, a morbid condition. It simply results from the sinking down of the brain in consequence of the atrophy of its central parts, which causes the cephalo-rachidean fluid, that fills all the space not occupied by the substance of the brain, to be found in the greatest quantity at these parts.

28. *General Phlebitis.*—F. Gibeau, aged 28 years, was delivered of twins July 8th, 1826. On the 9th and 10th, she appeared very well, though the lochial discharge was scanty. On the 11th, her breasts were swollen and painful; the pain extending to the axillæ, and along the left side of the chest, with rigors, fever, some delirium, diarrhœa, and vomiting. Pains were now experienced in several articulations, and on the 14th she was brought to the hospital. Her countenance was now pallid, features shrunk, tongue coated, dry and red, with thirst. Abdomen tense and tender on pressure; diarrhœa, vomiting, quick pulse, cough, and oppression. There existed a large umbilical hernia easily reducible. The knee joints were red, swollen, and painful; the lower extremities œdematous, tense, shining, white, elastic, and did not leave pits on pressure. It was concluded that she laboured under phlegmasia dolens, (œdeme actif des nouvelles accouchées). Twenty ounces of blood were drawn from the arm; the patient was placed upon the most restricted diet, and emollient cataplasms were applied to the breast and abdomen. Venesection was repeated the two succeeding days; the blood much inflamed. The left arm became now the seat of considerable pain. On the 19th of July, two gangrenous spots were discovered on the right mammæ, and the same upon the labia pudendi. The left arm was affected with a similar swelling to that in the lower extremities. The phlegmasia which had thus extended itself to so many organs, was now treated by the tartrate of antimony, given to the extent of 6 grains per diem. This treatment was continued for six days, during which time the diarrhœa ceased, but the œdematous swellings remained. On the 30th of July, the diarrhœa returned, and continued until the 15th of August, when the patient died.

Sectio Cadaveris. In the lungs, some points of hepatization, but no purulent deposites. The pharynx and œsophagus, completely lined with an exudation similar to soft mortar, forming a tube that reached to the cardia, where it terminated. The mucous membrane of the œsophagus was pale when exposed. The peritoneum was healthy, as was also the mucous membrane of the stomach and intestines, with the exception of a few points in the colon. The uterus was about the size of the fist, its cavity being filled with a sanguineo-purulent fluid:

its parietes were livid, and, towards the fundus, in a state of softening. Extensive suppuration existed about the left shoulder joint, but the other articulations, which had been the seat of swelling and inflammation during life, were now collapsed and colourless. The principal veins of the left arm were filled with a white tubular concretion, not adhering to the internal surface of the vessels. These concretions were themselves filled with pus, similar to that found around the joint. The internal coats of the veins were remarkably pale. The iliac veins contained polypous concretions, very different from those just described. The hypogastric and femoral veins, however, presented tubular concretions filled with pus, down to the ankle. Finally, the pulmonary arteries presented the same appearances as those described in the veins. The relater of the above case conceives, that the tubular concretions discovered in the veins cannot be legitimately referred to phlebitis. "I am rather disposed," he remarks, "to believe, that these concretions were formed at the expense of the blood itself, and that they were the consequence of a mixture of pus; that is to say, of an inorganic fluid, with one endowed with life."—*Revue Medicale.*

29. *Phlegmasia Dolens in a Male.*—H. F. aged 15 years, was admitted into La Charité, July 7th, 1828. He had acute pain in the right groin, augmented by pressure, and in this part was felt a small tumour. The abdomen was slightly painful; there was some diarrhœa; the tongue white in the centre, and red at the point; cephalalgia; pulse hard and frequent; heat of skin; thirst. He dated his disease only from the preceding day, and could assign no cause for it. *Diluents—injections.* 8th. In addition to the above symptoms, there is an erysipelatous redness at the lower and inner side of the right leg, to the extent of a hand's breadth; from this, stripes of redness ascend to the groin. These were extremely painful on the slightest pressure. The inguinal glands are now unequivocally enlarged, the thigh and leg swollen and tense; but no pit remains upon pressure. The patient is unable to move the limb in the slightest degree, without the most acute pain. *Venesection to* 12 *ounces—fomentations—injections—diluents.* 9th. The red stripes are more vivid and clearly defined, and are very painful. They do not follow the course of the internal saphena vein, which is neither hard nor tender to the touch. The blood drawn was inflamed. *Venesection repeated.* 10th. Blood last drawn not inflamed. The redness of the stripes, and swelling and tension of the limb are diminished; the inguinal glands, smaller. *Venesection to 6 ounces.* 11th. The blood again inflamed. Large phlyctenæ have formed on the lower part of the leg. 12th. The extreme pain felt in the course of the inflamed lymphatic vessels, is nearly gone. From this time, the general and local symptoms declined, and the patient was discharged cured, with the exception of some œdema of the limb. M. LITTRE, who reports this case, under M. LERMINIER, considers it one of phlegmasia dolens, and that the inflammation was seated in the lymphatic glands and vessels. There is certainly great similarity in many of the symptoms; but the red lines in the course of the absorbents are not usually observed in the puerperal disease. That the inflammation, in this case, was not seated in the veins, is as certain as any thing can be, where dissection has not been put in practice.—*Jour. Hebdomadaire from Med. Chirur. Review, April* 1829.

30. *Latent Tubercular Phthisis—Pneumo-Thorax.*—A young man was admitted into the Hôtel Dieu, July 26th, 1828. He had been affected, for three months previously, with cough and diarrhœa; had never spit any blood. When he came to the hospital, the symptoms were those of chronic enteritis. He coughed but little, with a trifling expectoration destitute of any purulent character. He was put under a mild, soothing regimen, with tepid baths and anodynes. After more than two months sojourn in the hospital, he found himself so well as to request his discharge. On the evening preceding the day of dismissal, he was, however, seized suddenly with a violent pain, extending from the left flank to the præcordia. This pain was so intense, and its seat so well defined, that it was immediately concluded that a perforation of one of the intestines had

taken place, with escape of its contents. There was no tenderness of the abdomen, however, on pressure, which caused some doubts as to the existence of so serious an accident. The pain continued during the next day without increasing. The chest was now examined: in the right lung the respiration was very loud—puerile. The naked ear being applied to the left side of the chest, the metallic tinkling was heard from time to time. On employing the hippocratic succussion, the collision of two fluids of unequal density was heard. Pulse frequent; decubitus more easy on the right than on the left side. Pneumo-thorax was now evident. In a few days the symptoms in some degree mitigated, and the patient was able to walk about the ward.. The left side of the chest was bulged out. A week afterwards he died instantaneously, after getting up and taking some breakfast. Upon opening the right side of the chest, the heart was found in that side opposite the sixth rib. The inferior lobes of the right lung were sound; the superior lobe was studded with tubercles, some of them softened down. When the left cavity of the pleura was opened, a rush of gas came forth, without any particular smell. The lung was compressed against the spinal column, and covered with a layer of whitish coagulable lymph. There was a considerable effusion of clear serum in this side of the chest, containing numerous shreds of coagulated lymph. A blow-pipe was now introduced into the trachea, and air thrown into the lungs. This soon made its way through two apertures in the pulmonary tissue, and bubbled up through the water affused in the chest. This explained the cause of the pneumo-thorax. There were some distinct ulcerations in the mucous membrane of the ilium.—*Journ. Hebdomad. ibid.*

31. *Œdema of the Glottis.*—A man, aged 46 years, entered the Hôtel Dieu of Nantes, on the 29th of November. Four days previously he had been exposed to a current of cold air, while in a state of perspiration, soon after which he was seized with sore throat and difficulty of swallowing, followed by a sense of burning heat along the trachea, and constant cough. The oppression, difficulty of breathing, glairy expectoration, &c. increased; and when he entered the hospital, he was in a very dangerous condition, each inspiration being effected with great labour. His face was of a violet colour; pulse hard and full. The alum insufflation, employed twice. This caused some irritation at first, and much cough, during which he inhaled with considerable difficulty. Afterwards the breathing became more easy, he was nearly seven hours without coughing, and the night was passed in comparative tranquility. The insufflation was practised every day until the disease yielded. Very few other medicines were employed—none of any efficiency. Expectoration came on about the fourth day after he was received, and then the symptoms became much mitigated.—From the clinical report of A. Laennec, M.D., Physician to the Hôtel Dieu of Nantes.—*Med. Chirurg. Review, Ap.* 1829.

IV. THERAPEUTICS, MATERIA MEDICA, AND THE PRACTICE OF MEDICINE.

32. *Combination of Belladonna, Ipecacuanha, and Sulphur in Pertussis.*—In Horn's Archives for 1827, Dr Kahleiss first directed the attention of physicians to this combination, the efficacy of which he had established, by its employment in nearly 100 cases of the disease. In Hufeland's Journal for February of the present year, he states that, since the appearance of the communication alluded to, he has had further opportunities of testing the value of the remedy, in consequence of hooping cough having several times prevailed epidemically. He directs for a child two years old, pulv. rad. belladon. gr. iv. pulv. doveri, gr. x. flor. sulph. ℈iv. sacchari ʒij.—M. f. pulv. xx. One of these powders is to be taken every three hours, and between each, a teaspoonful of the following mixture: syrup. liqu. ʒij. aq. chamæmeli ʒi.; acid. hydrocyanici Vauquelini gtt. xii.—M.

With many children of the above age, and even some months younger, the dose of the belladonna here directed, will not be sufficient to reduce the frequency or violence of the cough. In these cases, it must be increased to five or six tenths of a grain in each dose, and an additional drop or two of the acid may be added to the mixture. For children of from 9 to 15 months, each powder should contain from an eighth to a sixth of a grain of the belladonna; one-fourth to three-eighths of a grain of the Dover's powder, and three-fourths of a grain of sulphur. For a child three years old, one-fifth of a grain of belladonna; four to five years old, one-fourth of a grain; six to eight years old, three-eighths of a grain; ten years old, half a grain.

In some cases, the effects of the remedy are not perceptible, until it has been continued for 5 or 6 days. The paroxysms of the disease will now become less frequent, and soon after diminish in severity. By 8, 10, or at the farthest, 12 days' longer continuance of the remedy, the disease will be completely removed.

In a few instances after 2 to 4 days' employment of the above prescription, in the doses indicated, a dilatation of the pupils, and a scarlet efflorescence over the whole body, will be produced. The remedy, in such cases, must be omitted for 24 or 36 hours, and then resumed with a less proportion of the belladonna. The mixture containing the acid need not, however, be discontinued.

33. *Specific for the Hooping Cough.*—In Rust's Mag. f. die gesammt. heilk. (No. 2, 1828), it is stated that Dr Meyer, of Minden, has, in a few days, been enabled to remove all the symptoms of pertussis, by the external application of morphia. He directs a small blister to be applied over the præcordia; the detached cuticle being removed, the exposed surface is to be sprinkled over with half a grain of morphia, rubbed up with starch. The morphia to be repeated every evening. The only internal remedy he employed was an emetic. If necessary, the blister may be re-applied every third day. In five cases, the disease was so far diminished in 8 days, that no further treatment was considered necessary.

34. *Deleterious Effects from a Combination of Nitre and Sulphur taken internally.*—A country woman, labouring under a tertian ague, took a large dose, nearly three drachms, of a popular febrifuge, composed of a mixture of nitrate of potassa and sulphur, in some spirits, shortly before an expected paroxysm. Shortly after the remedy had been swallowed, she was seized with an intense burning at the stomach, with vomiting, cold extremities, pale, haggard countenance, and delirium. Dr Keibel of Stargard was requested to see the patient, and found her labouring under the above symptoms, with a small, oppressed pulse, and tremors of the hands and feet. He ordered 20 leeches to the epigastrium, the bites of which to be allowed to bleed freely after their removal. Flaxseed tea was directed to be administered to favour the vomiting, with injections of an infusion of chamomile, linseed oil, and common salt—sinapisms to the extremities. By this treatment the violence of the symptoms was abated. An emulsion of aq. chamæmeli, ol. amygdal. dulc. and ext. hyosciam. was now prescribed. In a few days all symptoms of gastric disease were removed. The intermittent fever still continuing, the sulphate of quinia was administered, by which the paroxysms were speedily arrested. For the above case we are indebted to Rust's Mag. f. d. gesammte heilk. Vol. XXVIII. No. 3, 1829.

35. *Solution of Nitrate of Silver in Diseases of the Eye.*—The Journal Für Chirurg. und Angenheilkunde, Vol. XII. No. 1, 1828, contains an abstract of professor Graefe's clinical report of the Institute for Surgery and Diseases of the Eye of the University of Berlin, for the year 1827. In this, among other interesting particulars, it is mentioned that the efficacy of a solution of the nitrate of silver, dropped into the eye, or applied by means of a hair pencil, as a remedy in obstinate cases of blennorrhagia oculi, the employment of which was noticed in a preceding report, has been confirmed by the experience of the present year.

36. *Acupuncturation.*—Three cases of acupuncturation, performed in a somewhat novel manner, are related by Dr MOST of Rostock, in GRAEFE and WALTHER's Journal, Vol. XII. No. 3, 1829.

Case 1.—A taylor of a meagre habit, had been affected for about six months with a periodical convulsive motion of the right leg, the limb being involuntarily thrown into alternate flexion and extension. A variety of remedies had been employed without benefit. Acupuncturation was resorted to. A needle of copper was introduced through the calf of the leg to the bone, and another of silver into the glutæus muscle: from this scarce any pain was experienced. The needles were now connected together by means of a fine brass wire; when instantly the patient experienced a sensation of cold and itching in the thigh: after fifteen minutes the needles were withdrawn. The convulsive motions of the limb were suspended, but returned three days subsequently. The acupuncturation was repeated every third day for fourteen times; but as only a temporary benefit was derived, it was finally abandoned.

Case 2.—In 1826, a butcher, from exposure to cold, contracted a rheumatic affection of the right arm. By the usual remedies, venesection, leeches, nitre, and blisters, the fever, and local pain and inflammation were removed, but a degree of lameness still continued in the arm. In this case, one needle was introduced into the pectoral muscle, and the other into the deltoid, and connected together as in the above instance. During the continuance of the insertion of the needles, the same sensations were experienced as by the first patient. By the third application of the remedy, the motions of the arm were so far restored, that a pitch plaster to cover the shoulder was considered fully sufficient to effect the cure. The patient has remained to this day free from all disease.

Case 3.—A washerwoman, 36 years old, had suffered for four weeks from a severe rheumatic pain of the left side of the back. One needle was inserted above and another below the seat of pain, and connected together as above. Almost instantly all pain was removed, the patient experiencing merely a dragging sensation at the points at which the needles were inserted. From these latter, it was discovered on the next morning, that a slight discharge of an acrid matter had taken place, inflaming the skin over which it passed. The subsequent evening the pain returned, but was quickly removed by a diaphoretic of elder tea and rob sambuci.

37. *Chloride of Gold in Diseases of the Eye.*—In RUST's Magazine, Vol. XXVIII. No. 1, 1828, is contained an article by Dr JAHN of Meiningen, upon the local employment of a solution of the chloride of gold in certain diseases of the eye. He states that for nearly a year, he has been in the habit of employing this remedy in "impetiginous, scrofulous, gouty, rheumatic, and simple chronic inflammations of the eye, as well as in the purulent ophthalmia of infants," and invariably found it to be a very powerful remedy. He directs two grains to be dissolved in six ounces of distilled water, some drops of which are to be introduced within the eyelids, and a linen compress, wet with the same, applied over the eye.

38. *Iodine in Vapour as a remedy for Phthisis Pulmonalis.*—Dr BERTON, convinced of the inefficacy of the use of iodine by frictions, and of the risk attending its ingestion in the stomach, has directed the medicine to be inhaled under the form of vapour. The process is as follows. In a flask with two tubular openings, he puts diluted sulphuric acid, and on this projects a quarter or half a grain per diem, of the hydriodate of potassa: the iodine is promptly disengaged in the form of vapour, and this is inhaled by the patient through one of the tubes of the flask. The process is repeated from four to ten times in the day—the duration of each being from four to five minutes. Dr BERTON had first assured himself of the innoxious nature of the air loaded with iodine vapour, by experiments on animals. Three consumptive patients, on whom the remedy was tried, were not only not injured, but seemed to be somewhat benefited. No very extraor-

dinary praise this of the new medication. Dr B. feels more confidence in its efficacy in chronic bronchitis.

39. *Intermittent Fevers treated by the Sulphate of Quinia, applied according to the Endermic Method.*—In the *Annali Universali di Medicina*, for November and December 1828, Dr Speranza gives an account of his successful treatment of fifteen cases of tertian fever, by the endermic method of applying the sulphate of quinia. In all of these the fever had appeared some days before he prescribed for them. In none except two was there any very manifest local irritation: and in these latter, the symptoms were gastric. Without giving to any of them purgative medicines, he had immediately a blister applied, and in most instances on the day of the febrile paroxysm: the sulphate of quinia was put on at the end of the fit, or at the beginning of the apyrexia. The arm was the place chosen for the application of the blister, as the most convenient for dressing. The skin was first strongly rubbed with concentrated vinegar, in order to hasten the formation of the serous sac by the blister. Immediately after raising the epidermis, eight to ten grains of the salt, mixed with a small quantity of ointment, were placed on the denuded surface. The sore was dressed on the second day, by removing whatever remained on its surface, either of ointment or membranous concretions. From the appearance of the residue, there seemed to be about one-half of the sulphate of quinia absorbed.

The adoption of this method was followed in most cases by the disappearance of the fever even after the first application of the medicine, and without the necessity of recourse to a second.

Not only were fevers primitively of a tertian type treated in this way, but also others, which had been at first continued, before being intermittent. In no cases was there a relapse, which is quite common after the use of sulphate of quinia internally. In some subjects, in whom different organic affections required the use of evacuants or tonics, after the disappearance of the fever, this latter was not found to return after this secondary treatment.

No irritation of the neck of the bladder or urinary organs occurred, after the application of the blister in the febrile paroxysm. In some cases the inflammation of the arm, consequent on vesication, ran so high as to require topical remedies.

40. *Experiments on the action of Morphia and its Acetate.*—Dr Beraudi, of Turin, has recently made numerous experiments on the effects of morphia and its acetate, on himself and his young friends Rebuni, Crispio, and Allinio, students of medicine. We have not space for all the details; and must content ourselves with the chief results. Ingestion of the acetate of morphia, by the above named gentlemen, in doses varying from an eighth of a grain to a grain, dissolved in distilled water, was followed by dilated pupil, increased frequency of pulse, deep coloration of face, weighty feeling about the head, painful sensations in the epigastric region, extending sometimes to the bladder and genital organs; nausea, large drops of sweat from the cutaneous surface, drowsiness, sleep, often restless. On awaking, acute pain in the region of the frontal sinuses was often complained of, with nausea, abdominal uneasiness, and intestinal disturbance, as in diarrhœa; itching of the skin, and a papular eruption on it. Generally a bitter taste was experienced in the mouth and fauces after swallowing the acetate—frequently the tongue became red at the tip and borders. The lassitude following the more marked effects of the medicine was, in some instances, extreme, and occasionally a pain and sense of stricture were felt in the fauces at this time.

The effects produced by the solution of the morphia in alcohol, were not different from those following the ingestion of the acetate.

M. Allinio, aged 22 years, of a bilious temperament, who swallowed an eighth of a grain of the acetate of morphia in two ounces of distilled water, had his pulse raised in 30 minutes, from 66 beats to 94 in a minute—a copious sweat at the same time bathing all his skin. M. Crispio's pulse was increased from 60 to 79 beats in a minute, after taking the sixth of a grain of the acetate in distilled water.

M. **Rebuni**, after swallowing one eighth of a grain of the salt, experienced no other effects but an acceleration of pulse from 63 to 108 beats in a minute in the course of half an hour, and a slight redness of the eyes and point of the tongue.

The editors of the *Archives Generales*, from the March number of which we have gleaned the preceding summary, conclude the translation of the entire account of the experiments from the *Annali Universali*, by remarking that they are adverse to the opinions of M. **Bally**, who denies that the salts of morphia produce any effect, even of a sympathetic nature, on the mouth, pharynx and tongue; but that they are, on the other hand, confirmatory of the experiments tried by M. **Chevallier** on himself. (See *Rev. Med. Fevrier* 1824.)

41. *A Combination of Iodine and Morphia in Glandular Affections.*—M. **Gabriel Pelletan** gives, in the *Journal de Chimie Médicale, &c.* the history of a lady of a nervous temperament, prone to glandular inflammation, especially of the mammæ and uterus, on whom extirpation of a diseased mammary gland had been practised some years before, finally cured by iodine and morphia. For the disease of the uterus accompanied by pain of the part and swelling at the right side of the hypogastric region, bathing and leeching of the vulva were prescribed with some effect. After this, ointment of the hydriodate of potassa of the size of a small nut was rubbed on the tumour every evening. At the end of four days a general agitation and painful digestion were observable. The ointment was discontinued; and renewed after some days had elapsed. The same unpleasant symptoms again appeared, and after several trials of this nature with always similar results, its use was entirely abandoned. Other measures, adopted by M. **Gabriel Pelletan**, were attended with happier results, and in about two years from this time the uterine engorgement seemed to be sensibly diminished. Now, however, were felt pains in the left mammæ, which, for a while obscure, became finally very intense. M. **Pelletan**, Senior, who had extirpated the diseased mammary gland fifteen years before from the patient's breast, was again consulted. Leeches were twice applied to the pained part with advantage; a third application was attended with no good effect. Compresses of different kinds were abandoned; all moist bodies aggravated the pain.

M. **Pelletan** the younger (**Gabriel**), on whom the treatment of the case again devolved, had recourse to the practice which was successful two years before, viz. warm bathing, small doses of castor oil, and syrup of hyosciamus, but in vain. A month having elapsed in this course, he determined to try the iodine once more as follows:

Take hog's lard, one ounce; protiodide of mercury, six grains; acetate of morphia, eight grains: Mix accurately. Of this about the size of a small nut was rubbed on the diseased gland every day. In lieu of the leeches a bleeding from the arm was practised, as the patient had attained that age when the menstrual discharge would probably cease. This gave great relief. A perseverance in the use of the ointment for three months, did not give rise to any of the sinister effects from which the patient had suffered by its use on former occasions. The engorgement of both breast and uterus diminished progressively, and in the month of August 1827, there was no vestige of disease. At the time of writing the history of his patient, December 1828, M. **Pelletan** declares her health to be excellent.

During the period of eighteen months, he tells us, that the hydriodate of potassa and the proto and deutiodide of mercury united to the acetate of morphia and lard, have been employed successfully in a case of goitre, in another mammary glandular engorgement, and in a lymphatic enlargement of the tissue of the skin, in consequence of the bite of leeches. Finally, he cites the case of an Englishman, treated unsuccessfully for two years in London, for a disease of the liver, with intense jaundice, and to whom large doses of calomel had been given, cured completely by means, 1. Of simple baths and decoction of saponaria. 2. Sulphurous baths taken in the country, mild purgatives, waters of Vichey for drink, a light nutriment, and during the whole period, frictions over the region of the liver with the following ointment: hog's lard, one ounce; deutiodide, six grains; acetate of morphia, six grains. From all these facts the author concludes that morphia may be regarded as one of the means most capable of diminishing the general inconveniences from the preparations of iodine.

42. *Iodine in White Swellings.*—M. **Bayle** gives cases (Rev. Med. Fev. 1829), of the efficacy of this medicine in tincture, externally and internally applied, for white swellings.

43. *Chlorine in Hydrophobia.*—M. **Julia Fontenelle**, in one of his clinical lectures, after mentioning the experience of Drs **Schoenberg** and **Semmola** in favour of chlorine applied to the wound, and taken by the mouth, diluted in water, as a cure for hydrophobia, thinks that the chloride of soda might be advantageously substituted internally for the chlorine. M. **Coster** strongly recommends the application of chloride of lime to the wound, as capable of completely neutralizing the poison.

44. *Inflammations produced by the Use of Mercury.*—Under this head we read a paper by Dr **Van Dekeere**, in the *Journ. Gen. de Med.* for January, in which the author indicates, as the effects of a mercurial treatment, inflammation of the gums with ptyalism, angina, bronchitis, gastritis, enteritis, colitis, (diarrhœa and dysentery), separately or combined. *Gastro-intestinal disturbance* is, according to him, nothing but mercurial gastro-enteritis. Cases of such phlegmasiæ as those enumerated above, occur among persons treated for syphilis by the use of mercury in the proportion of 46 to 116.

45. *Treatment of Tænia.*—The Prussian government, influenced by the favourable report lately made to them on the subject, by a committee of physicians, has purchased the account of the method followed by Dr C. A. **Schmidt**, in the treatment of tape worm, by settling on him a pension of one hundred and fifty dollars a year.

His plan, published by the government, is as follows. We have not room for the very long details on the subject, in the German (**Hufeland's**) Journal.

The patient affected with tænia, is to take during the first day, every two hours, from morning until seven o'clock in the evening, two spoonfuls of the following mixture:

No. 1. Valerian root, powdered, 6 drachms.
Senna leaves, 2 drachms.
Make an infusion of six ounces, and add
Sulphate of soda, crystallized, 3 drachms.
Syrup of manna, two ounces.
Oleo-saccharum of tansy, two drachms.—M.

The patient is to take coffee strongly sweetened, but without milk. At twelve o'clock, he uses only meat broth, and some slices of meat and herring roe. At eight in the evening he eats a salad made with herrings, raw ham hashed, an onion, a good deal of oil and sugar. Most frequently portions of tænia are passed during this day, and even in two cases, M. **Schmidt** has seen the worm expelled entire.

The second day, the patient is to take, beginning at 6 o'clock in the morning, 6 of the following pills:

No. 2. Assafœtida, extract of dog's grass, *aa*, 3 drachms.
Gum gamboge, rhubarb, jalap, of each in powder, 2 drachms.
Pulverized digitalis leaves, ipecacuanha, sulphur of antimony, of each, 2 drachms.
Calomel, 2 scruples.
Ethereal oil of tansy and aniseed, each 15 grains.
Mix into a mass and make pills each of two grains, to be preserved in a phial.

These pills are to be swallowed in a tea spoonful of syrup. Half an hour after the first dose, the patient is to take a table spoonful of castor oil, and during the day, plenty of coffee, well sweetened. Usually, the worm is expelled about two o'clock in the afternoon. If not, the pills are to be continued, taking at the same time, a spoonful of castor oil with sugar, if only fragments of the tænia are expelled; and until the evacuations exhibit no more remains of it. For food, the patient takes some soup at noon, and in the evening, a broth of flour or meal, with some fresh butter and sugar. The author advises the use of the pills next day, in order to be sure that there is no *nest*, as he calls it, *of the tape worm left*.

In order to prevent relapses, it is proper to eat, from time to time, salad of herrings and horse radish, (raw) with vinegar and sugar; and still to take for some days longer one or more doses of the pills.

The course being finished, a more substantial regimen is allowed, such as soups, the meat of young animals, chicken, pigeon, yolks of eggs, and good wine in a small quantity; some bitters are also prescribed.

When not sure of the existence of tænia, we can determine it by the following means:

In the evening, the person is to eat salad of herrings, and to drink a good deal of sugar and water: the next morning he will take the following powder in syrup:

Pulverized jalap, 15 grains.
Wormseed, (sem. contra), 10 grains.
Gamboge, calomel, of each, 6 grains.
Oleo-saccharum of tansy, 1 drachm.

After this the patient is to swallow coffee well sweetened, and very fat broth. If he be affected with tænia, rings of this worm, and sometimes the entire animal itself, will pass in the evacuations caused by the powder. Then we administer the pills No. 2, in order to produce a complete cure.

Out of 166 persons, of whom only 15 were men, 20 had but one tænia; all the others had several; one individual discharged as many as seventeen.

As may be readily anticipated by the reader, Dr Schmidt directs us to abstain from his method during pregnancy, or at the coming on of the menses; and also in cases of hemorrhoids and phthisis, &c.

46. *Acupuncturation in India.*—The London Medical and Physical Journal for February, tells us that the Hindoo physicians, when ordinary means have failed, in cases of diseased spleen, have recourse to the introduction of iron needles, heated red hot. They are plunged into the side, above the spleen in various places, according to the discretion of the operator, usually not fewer than seven, nor more than twenty. It seems likely that they penetrate its substance. The needles are made to penetrate to a considerable depth, according to the native's idea, through the spleen. The operation is attended with violent pain, but it is said rarely to fail of success.

47. *Acute Glossitis successfully treated by the Antiphlogistic Method.*—Professor Speranza gives the details of this case. It is of a Mr B. who had for a long time enjoyed excellent health, when from exposure to a current of cold air in July last, after great exhaustion by exposure to intense heat, he was seized on the following night with angina and inflammation of the tongue. It was not until two days afterwards that M. Speranza saw him. The tongue was then greatly swelled, red, painful to the slightest touch, and one half of it protruding out of the mouth. There was a copious flow of saliva, which irritated the lips—themselves swelled and painful. Deglutition could not be performed; the fauces and palate displayed great sensibility; respiration was painful, and suffocation imminent. The face was flushed and tumid, the eyes red and watery; headach continual, pulse hard and very frequent, skin hot and dry, nausea uninterrupted, urine in small quantity and high coloured, and constipation. Under these circumstances there was much to be apprehended, as well from the rapid increase of the inflammation, as from the symptoms of suffocation, which became more and more imminent. Dr Speranza had immediate recourse to bleeding from the arm and the application of leeches to the neck and under the chin; repeated enemata; and frequent lotions of the tongue, by a watery infusion of digitalis. Under

the operation of these means, the symptoms gradually diminished in intensity, so that on the sixth day the patient could swallow freely: his respiration was easy, the fever had nearly disappeared, and the tongue was reduced to almost its natural size. In conjunction with the above mentioned remedies, were employed diluent drinks and purgatives, which produced copious alvine discharges and an abundant flow of urine. On the ninth day there supervened a general sweat, which was the real termination of the disease, and from this time the convalescence was rapid.

Professor SPERANZA avails himself of this occasion to dwell on the advantageous effects of the antiphlogistic treatment in glossitis, and of lotions of the tongue, with the watery infusion of digitalis. He contrasts also the happy termination of this method of treatment, with the results obtained by those who laud the scarifications of the tongue in this disease.

48. *Bite of a Viper cured by the application of Cupping Glasses.*—An interesting case of this nature is related in the *Annales de la Medecine Physiologique* for December last. A child aged four years, of a robust habit, accompanied to the fields its father, who was a reaper. It had hardly been seated on the ground when it started up with loud cries. A viper is seen near it, endeavouring to escape. It was soon killed, and was found to measure ten inches in length. On looking at the hip of the child, two small red points, which gave issue to a little blood, were seen, surrounded by a swelling, which perceptibly increased. The wound was about two inches below the great trochanter, at the outer and posterior part of the thigh. The father applied the viper to the affected part, in order, as he alleged, to draw out the poison which the animal had when alive introduced; but alarmed at the rapid swelling, he had recourse to the more efficient means of tying a ligature round the limb above the swelled part, and posted off with his child on horseback, to find Dr M. The thigh, on being examined by this gentleman, two hours after the accident, was very voluminous; the band around the limb was sufficiently tight to prevent the swelling from passing it. The two wounds are like what would be produced by a sewing needle, and are about two lines distant from each other. A cupping glass is immediately applied; and in proportion as it acts, the swelling diminishes sensibly. The ligature is now cut. After the lapse of ten minutes, the cup is withdrawn, then re-applied after a lotion of liquid ammonia had been used, with a view of neutralizing the poison drawn out by the instrument. The operation is repeated until the swelling was reduced to the extent of surface covered by the cupping glass. A compress, moistened with liquid ammonia, is applied over this part. After the expiration of five days, the tumefaction was less, but firmer and more indolent. The child did not suffer any sinister effect.

Dr M. relates the case of a man bitten on the inner ankle by a strong and very lively viper, who having neglected to use a ligature, was seized with vomiting, a sense of suffocation, &c. and general tumefaction. Two hours after the accident, a draught containing ammonia was prescribed for him, to take in spoonful doses, and the pure ammonia was applied to the part. The symptoms soon disappeared; but the health of this man was affected for a long period afterwards. Dr M. regrets not having at that time been aware of the effects of cupping glasses.

49. *Case of Delirium Tremens, treated by Local Bloodletting and Purgatives, previous to the administration of Opium.* By A. H. RENTON, M.D. We shall give the account of this case in the words of Dr R. as found in the Edinburgh Medical and Surgical Journal for April.

On the 21st of October 1828, at nine A.M. I was desired to see M. De P., who, by his son's account, had fainted early in the morning, after a copious evacuation of the bowels, and had since been the subject of frequent fits of convulsions. His general habits are extremely intemperate.

I found the features puffy and bloated; the eye wild and suspicious; and the pupils contracted and impatient of vivid light. There was general tremor; and the body, but particularly about the face and forehead, was bathed in cold perspiration. The tongue was loaded, tremulous; and the pulse 120, small and compressible. In answering my questions, his manner was agitated, but tolerably coherent. To his wife and the people of the house, his conduct was quite outrageous.

On my being about to leave the room he became suddenly insensible, and was almost immediately seized with a paroxysm of general convulsion, attended by foaming at the mouth, and some degree of stertor, ending in a state of stupor.

Twenty leeches were immediately applied to the temples, and a large blister to the nucha. Four grains of calomel and fifteen of jalap, are to be taken in the evening, and if need be, a common injection. [We give the English of the Latin prescriptions.]

22d. 10, A.M. The paroxysms have been less frequent, but the delirium continues unabated. He complains to me only of headach. The medicine has produced no effect upon the bowels. He is directed to take, as soon as possible, five grains of the cathartic extract; and half a drop of croton oil—to be repeated, if required, four times, unless catharsis should be first induced.

6, P.M. The first pill produced copious evacuations. Since which there have been no fits, but his manner is wild, and his conduct more extravagant than ever. The surface is cold and moist; the pulse rapid and small.

Pure opium twelve grains, camphor one scruple, are mixed and divided into six pills, of which the patient takes one every fourth hour.

23d. 11, A.M. Four pills have been taken, but there has been no sleep. He is much more quiet, however, and is evidently under the influence of the opium. Omit the pills.

6, P.M. He has dozed a good deal during the day, and has been much less troublesome. Pupils dilated. His manner is subdued and childish. Repeat the opium pills at bedtime, and if the delirium returns.

24th. He has slept during the whole night, and is now perfectly collected. From this time all went well.

Dr Renton, who writes from Funchal, in the island of Madeira, thinks that had the opium been administered *at first*, there is reason to suppose that the individual might have been *forced* into a state of apoplexy, or have become the subject of hopeless organic disease. He refers to the case of an Englishman in a situation very similar to that just detailed, in which the same plan of treatment was pursued with an equally satisfactory result. "In general," continues Dr R., "when the head symptoms are not so prominent, on the bowels being thoroughly evacuated by the croton oil (a medicine of immense value in such cases, and in all others where the object is to have *a speedy* and *complete* evacuation of the intestines), I at once begin with opium."

50. *Is the Appearance of the Blood abstracted a Criterion of the Propriety of Venesection?*—Dr Davy, physician to the forces, examines the above question in the Edinburgh Medical and Surgical Journal. He begins by saying that the appearances and qualities of the blood usually supposed to be indicative of inflammation, and to warrant rather than forbid further bloodletting, are the following: an unusual degree of fluidity of the blood the instant it is drawn; unusual slowness in coagulating; and when coagulated being covered with a buffy coat, and cupped.

Relative to these appearances and qualities of the blood, though met with in the majority of cases of local inflammation, it is however with shades, differences and exceptions, involving much difficulty and perplexity.

"1. When the inflammation is violent, rapidly running on to suppuration, and very extensive, as attacking at the same time more than one texture, or only the same texture, but in different organs, the blood drawn I have observed is often neither cupped or buffed. This I have witnessed most strikingly in cases of peritoneal inflammation, either pure or complicated, with inflammation of the mucous coat of the intestines, or with diffuse cellular inflammation.

"2. In diffuse cellular inflammation, I have often noticed that the blood coagulated rapidly, as rapidly as when in health, and yet, being unusually liquid, exhibited a slight buffy coat, provided the vessel used for holding it was filled in a few seconds, and instantly put aside, and allowed to remain undisturbed.

"3. In ordinary cases of inflammation, as of the pleura and lungs, the blood drawn at the commencement of the disease is occasionally not buffed or cupped; but on repeating the operation the following day, the blood exhibits both these qualities.

"4. In cases of inflammation of the mucous coat, whether of the air passages or of the alimentary canal, the blood drawn sometimes shows the appearances and qualities enumerated, and sometimes not.

"5. Experience does not seem to have established, even generally, any relation in point of degree between these appearances and qualities, and the intensity of the inflammation. Sometimes the buffy coat in the blood is very thick, and the crassamentum is much contracted, and the symptoms of inflammation are not violent, and the recovery is not long protracted; and sometimes the reverse of this occurs.

"6. In a large proportion of fatal cases, fibrinous concretions or polypi, as they were formerly called, corresponding to the buffy coat on blood drawn, are found in the heart and great vessels; and, as well as I can judge from my experience, as often when the lancet has been freely used or only moderately or not at all."

The author very naturally infers from the above that the appearance of the blood drawn is neither a just or safe criterion of the practice and repetition of bloodletting.

In next considering the contra-indications to venesection, as commonly believed to consist in a very soft crassamentum, very little, if at all, contracted; or the blood remaining liquid; or the proportion of crassamentum to the serum being unusually small; Dr Davy does not think them conclusive or safe.

"1. In the remittent fever of hot climates, and in cholera morbus, both the common kind and the epidemic, the crassamentum of the blood drawn is generally softer than natural, and little if at all contracted, and yet, bloodletting in these diseases is not generally injurious; it is often beneficial even when repeated.

"2. Blood without fibrin in any disease is very uncommon. I have witnessed it only in cases of pulmonary apoplexy and that after death, in the cavities of the heart and bloodvessels; but so soon after death that it may be taken for granted that it was not a *post mortem* change; that it existed previously and was probably connected with, and partly the cause of, the fatal effusion. In such case, no one, I suppose, would have hesitated, if called in time, in abstracting blood, especially taking into consideration the plethoric habits of the individuals to whose cases I allude, and their previous apparently robust health.

"3. The proportion of the crassamentum to the serum being small, may often be witnessed in acute diseases in their advanced stage, or in acute diseases, supervening on chronic of long duration, or occurring to persons of great delicacy of constitution, of feeble health, and of valetudinary habits. In such cases no judicious practitioner would think of using the lancet, unless he considered it urgently necessary; and then surely he would not be prevented using it, even if certain of the blood being below par in respect to the proportion of crassamentum it might yield.

"Lastly, there is another and extensive and most important class of diseases (were a classification formed according to the appearances and qualities of the blood), in which the blood, as far as we have learnt from experience, is not apparently altered; as in the continued fever of summer, differing but little from the ephemera; as in the early stage of synochus; and as in apoplexy and tetanus, and many of the diseases strictly belonging to the neuroses, in the treatment of which bloodletting is often useful, and sometimes indispensable."

The author next adds a remark, for the justness of which most physicians will we apprehend give their approval, "that the more experience medical practitioners have, the less confidence they place in the appearances of the blood, in forming their opinion on the nature of a disease and on the mode of treating it."

He gives the language of Dr **Heberden** confirmatory of this sentiment. It is by the symptoms following the abstraction of blood, and not by the appearances of this fluid, that the cautious physician will consent to be regulated in his treatment of disease.

51. *Convulsions cured by a Warm Pediluvium and Cold Fomentations to the Head.*—(*Annales de la Med. Physiolog. Feb.* 1829.)—This was the case of a pupil of the military school at St Cyr, in whom the convulsions seem to have supervened on a violent fit of anger in a quarrel with some of his companions. Dr **Casimir Broussais**, the medical officer of the institution, had at first compresses wet with cold water applied to the temples and forehead, which gave some relief. This was followed by dry rubbing over the breast and epigastrium, at which, on being interrogated, he expressed much satisfaction. A very warm pediluvium gave great relief to his head and calmed the incipient delirium. Dr B. finding the pulse quick, full, and hard, was preparing to draw blood from the arm, when he was led to suspect that this young man, usually in the enjoyment of such perfect health, only suffered from mental agitation, and he determined on waiting a while. Gum water was his drink and medicine, except a portion of an antispasmodic mixture which a sister of the hospital had given the patient, but from a repetition of which she desisted at the instance of Dr B. Next day, after a rather restless night, he was quite relieved.

The author of the report of this case concludes by citing this as one of the many thousand others showing the relations of causality between the nervous pulp, as he calls it, and thought; and that the most efficacious antispasmodics are often those obtained from articles of hygieine, and in simple and temporary external revulsives.

52. *Gonorrhœa cured by Injections of Balsam Copaiba.*—Dr **Elijah Coons** of Tuscumbia, Alabama, gives, in the Transylvania Journal for May last, the account of a case of gonorrhœa, which ought rather to be called gleet or chronic gonorrhœa, cured, after other remedies had failed, by the use of balsam copaiba used as an injection four or five times a day. Diet spare; drinks mucilaginous. Seidlitz powders used to keep his bowels open. In a period of between two and three weeks he was quite well.

Dr C. had introduced a bougie into the urethra but did not detect any stricture.

He has since had two similar cases to the first, but of shorter duration, in which the same happy effect followed the above treatment. "Might not the balsam," he asks, "be injected in the early stage of gonorrhœa with advantage?" We certainly think not.

V. MEDICAL JURISPRUDENCE.

53. *On the Effects of the Sulphurets of Arsenic, Lead, Copper, and Mercury, on the Animal Economy.* By M. **Orfila**.—The experiments respecting the three last mentioned sulphurets, as described in M. **Orfila**'s Toxicologie, not satisfying their distinguished author, he determined on prosecuting a new series of inquiries, the results of which are to be found in the *Archives Generales* for March, from which we borrow on the present occasion.

Hoffmann, **C. Renault**, and some other experimenters, had established as a fact, that the pure sulphuret of arsenic was not poisonous, and that certain varieties of it met with in commerce, only became so by the arsenious acid mixed with them. It was on the other hand believed that the sulphurets of lead, copper, and mercury, were poisonous. M. **Orfila** tells us that both these opinions are erroneous. The first mentioned sulphuret or that of arsenic, is, per se, deleterious, while the three last mentioned ones exert no injurious action on the animal economy, or at most their effects are very slight.

Sulphuret of arsenic.—1. When we apply to the cellular tissue of the internal part of the thigh of dogs, 50 or 60 grains of the yellow sulphuret of arsenic, prepared by passing an excess of hydrosulphuric acid (sulphuretted hydrogen) into the arsenious acid, and washing it for several days, until the liquor no longer receives a yellow tinge from the hydrosulphuric acid, the animals experience the same effects which are produced by the different arsenical preparations, and they die at the expiration of forty, forty-eight, or sixty hours. *On opening the bodies*, the limb to which the sulphuret had been applied, is very red; the inflammation even extended to some distance over the abdominal parietes; the stomach exhibits one or more violet spots, or small brownish ulcers, the consequence of the destruction of the mucous membrane. The small intestines, rectum, liver and lungs, are in a natural condition. The *heart* is sometimes the seat of a remarkable alteration; the interior of the ventricles exhibits spots of a deep red, which are of some extent, and occupy chiefly the fleshy columns, penetrating also to at least a line and a half into the tissue of the heart. The auricles, aorta, and pulmonary tissue were of a natural appearance.

2. Analogous effects to the foregoing, are remarked, when 60 to 70 grains of the same sulphuret were introduced into the stomach, and the œsophagus tied to prevent vomiting. *On opening the bodies*, the digestive canal, liver, lungs, and heart presented the same appearances as in the preceding experiments.

3. Native orpiment from the mine of Tojova, in Hungary, applied to the cellular tissue of the thigh of several dogs, in the dose of one to two drachms, causes poisoning, and the animals perish at the expiration of about two days, as had been already observed by Mr SMITH. *On opening the bodies*, the stomach is found to be inflamed; its mucous membrane covered with a semi-fluid varnish, allows a multitude of bloody drops to leak out; the small intestines exhibit some red ridges; the ventricles of the heart present internally one or more dark spots, extending into the fleshy tissue. The lungs are somewhat red.

4. The same native sulphuret introduced into the stomach of dogs, in the dose of a drachm, caused death at the expiration of fifty hours, without the animals having experienced other symptoms than prostration and alvine evacuations. The stomach contained a tolerably large quantity of a blackish fluid, thick and flowing; the internal membrane exhibited here and there red spots, evidently inflamed; the small intestines were healthy; the rectum internally presented a multitude of folds of a deep red; the fatty masses in the heart were red; in other respects this organ was healthy.

5. Forty grains of native realgar from the mines of Kapnic, in Transylvania, applied to the cellular tissue of the thigh of a dog, occasioned death at the expiration of six days. The digestive canal presented unequivocal traces of inflammation. (SMITH.)

These experiments justify the conclusion, that the sulphurets of arsenic, both *natural* and *artificial*, are poisonous, even when they are *entirely* deprived of arsenious acid; though in truth their action is much less intense than that of this latter. Hydro-sulphuretted water may then act favourably in the first period of poisoning by arsenious acid, since it would tend to transform this acid, which is a powerful poison, into *yellow sulphuret*, which is much less active. The salutary effect, however, of hydro-sulphuretted water, will only be prompt and efficacious on the arsenious acid dissolved in water: the solid and hard particles not yet dissolved, would resist longer the decomposing power of the re-agent.

Sulphuret of lead.—An ounce of the black sulphuret of lead prepared with the acetate of lead and hydrosulphuric acid, was given to young dogs of a small size, which experienced no inconvenience from the ingestion. They did not eject the sulphuret by vomiting—sometimes they had an alvine discharge in the course of the day. It must be noted that this sulphuret was washed frequently with pure water, until the fluid thus used ceased to impart any colour to the hydrosulphuric acid.

It is very evident from the foregoing, that the dogs which died after being made to swallow acetate of lead and sulphuret of potassa, did not perish in consequence of the sulphuret of lead produced in their stomach, but by the sulphuret of potassa, which is a very decided irritant.

The above results would lead to the employment of hydrosulphuric acid in cases of poisoning from the salts of lead during the first period, were it not more rational for us to make use of a very diluted watery solution of some sulphate, which will have the advantage of forming with the salts of lead an insoluble sulphate, possessing *no hurtful effect* on the animal economy, and the additional recommendation of being always at hand whenever we desire to make use of it.

Sulphuret of copper.—1. This salt was prepared by decomposing the sulphate of copper by an excess of hydrosulphuric acid, and carefully washing the product. Six drachms were given to a dog three months old, fasting. In ten minutes nausea and vomiting were produced, and the sulphuret was seen among the glairy and mucous matter ejected. On the following day the animal was quite well.

The vomiting was here attributed by M. ORFILA, to a partial absorption of oxygen by the sulphuret, and its consequent transformation into a sulphate, before it was swallowed.

2. An ounce of the same black sulphuret of copper, recently prepared and washed, until the water no longer gave any precipitate by the addition of the hydrosulphuric acid, was introduced into the stomach of a small dog fasting; the œsophagus was immediately tied to prevent vomiting. The animal made no effort to vomit on the following day; was a little dull. No pain or convulsive movements after this, and the animal died on the fifth day in a state of prostration, precisely similar to that seen in dogs not poisoned, but whose œsophagus had been tied for five, six, or seven days. (For the effects of this ligature, see *Toxicologie Generale, Tom. I. p.* 36, *3me edit.*)

On opening the body of this animal no traces of inflammation were observed either in the digestive canal, lungs, or heart.

Sulphuret of mercury.—1. This was prepared by adding to corrosive sublimate an excess of hydrosulphuric acid, and perfectly washing the black sulphuret. Of this half an ounce was introduced into the stomach of a young dog of middle size, fasting. After the lapse of seven hours, the animal, which seemed to have suffered no inconvenience, vomited twice. On the next and following days it was in excellent health.

2. Five days afterwards, half an ounce of the same black sulphuret of mercury was given to the same dog, and the œsophagus was tied immediately afterwards to prevent vomiting. Seven days from this time, the animal died without exhibiting any other symptom than that prostration which is the common effect of a ligature on the œsophagus. No sign of inflammation or organic lesion was presented in the examination of the digestive tube and other organs of this animal.

3. Half an ounce of artificial cinnabar, pulverised and not washed, was given to a small weak dog, without the animal experiencing any unpleasant effect during the ten days in which it was observed.

4. Half an ounce of the same cinnabar applied to the cellular tissue of the internal part of the thigh of a small dog, gave rise to no accident, and at the end of ten days, the animal seemed to be as usual.

5. Six drachms of vermilion (pulverised cinnabar), having been washed in distilled water, were given to a small dog, the subject of the preceding experiment; the animal did not vomit nor seem any more incommoded than by the external application of the sulphuret which had not been washed.

These facts, continues M. ORFILA, forbid us to doubt of the innoxiousness of the black and red sulphurets of mercury *when well washed.* They do not, indeed, agree with those already detailed in his Toxicologie, nor with those of Mr SMITH; but it is easy to perceive that in many of his former experiments, corrosive sublimate at first, and afterwards sulphuret of potassa, or sulphuret of lime, having been given to the animals, the decomposition of the sublimate by the sulphuret in the stomach was incomplete, or if the sulphuret of potass were in excess, it is to it that we must attribute the symptoms of poisoning. We can only account for the deaths of animals resulting after the ingestion of the black sulphuret of mercury, by supposing that it had not been well washed and still contained a notable quantity of corrosive sublimate. Finally, in all the cases in which death was said to have resulted from the ingestion of corrosive sublimate mixed with *hydrosulphuric* acid, it is obvious that this latter had not been employed in sufficiently large quantity to decompose the deutochloride of mercury (sublimate). The learned experimenter does not pretend to explain the cause of the difference in the results of his and Mr SMITH's experiments, but believes the latter gentleman to have been led into error.

54. *Case of Intus-Susception which was liable to be mistaken for Poisoning, by* M. ROSTAN, *Physician to the Salpetriere.*—The reporter of this case tells us, that it merits attention under several points of view. As a pathological variety it is one of the most interesting which we meet with. In a medico-legal light, it shows us, 1. That there exist morbid phenomena which may so far impose on us as to induce the belief of poisoning. 2. How important it is for a physician to be familiar with post mortem examinations, and the attention demanded in these kinds of investigations.

The subject of the history, which we shall abridge from the *Archives* for March last, was Madame Saint Eloy, of Saint Maurice, more known under the name of Mademoiselle Hullin (Virginia), aged twenty-eight years, a dancer at the opera. She had been frequently subject to abdominal phlegmasiæ, which required for their removal a prompt and vigorous treatment. Three years ago she suffered from vomiting on the slightest cause, and could not digest the lightest food. By proper regimen and medicines, she recovered from this state in the hands of her physician, M. DUFOUR. Mademoiselle Hullin was married in September 1828, to M. Saint Eloy, of Saint Maurice: her health continued good until Tuesday the 17th of February. On this day she was seized with repeated vomitings of glairy matter, mixed with aliment; extreme agitation and anxiety; the abdomen was very little painful; the skin was not hot, nor the pulse full.

We forbear to detail all the symptoms on the following days; the more especially as there seems to have been no small difference between the account of them by M. DUFOUR, and that furnished by another physician. On the 18th of February, there were frequent fits of syncope, and desire to urinate and go to stool, but without any discharge ensuing.

A third physician, Dr G. was called in on this morning (Wednesday). Still a a most contradictory statement by the physicians.

On Thursday morning there was a violent pain in the right iliac region. This was met—by a goodly number of leeches to the part, or bleeding from the arm, our readers are ready to exclaim. No such thing; the collective wisdom of the doctoral triumvirate was displayed in their ordering a cataplasm, moistened with the liquid laudanum of SYDENHAM. The symptoms persisted until noon, when vomiting of highly coloured yellow matter, but inodorous, took place. Dr G. inquired whether the patient had not taken any thing to produce this coloration. The vomitings augmented in frequency of efforts and discharges. At two o'clock, they *had become blackish*. Carefully examined, they were found to consist of fecal matters. *It was thought that iliac passion might exist.* M. DUBOIS is sent for, but cannot come. At five o'clock, a bath (temperature not stated) is ordered. The patient remains in it two or three hours. No relief. The pulse is small, frequent, tremulous, the abdomen tympanitic, the features of the face changed. The patient expired at ten o'clock in the evening.

It will be some consolation to those of our friends who have such an especial dread of the prevalence of BROUSSAIS's doctrines and practice, to find from the preceding history, that they are not yet of general adoption in Paris. Shall we add, seriously, that if they had been, this woman might have been saved.

The sudden death and violence of the symptoms gave rise to sinister reports, involving the character of the husband, M. Saint Eloy. At the request of this latter, the body of the deceased was disinterred, and a juridical investigation made by a physician, in the presence of the medical attendants of Madame Saint Eloy, and a justice.

No foreign matters were found in the stomach or intestines. The former *exhibited marks of inflammation*. The duodenum was of a rose colour, the jejunum began to assume a deeper hue, and the ileon presented the appearance of incipient gangrene throughout its entire extent: it contained also stercoral matters: the cœcum, colon and rectum, exhibited nothing remarkable. The organs of respiration, together with the heart, liver and spleen, were natural.

In reply to a question on the part of the judiciary authorities, the examiner alleged, that he saw no evidence of poison, but that chemical analysis would determine this. Neither *invagination nor strangulation of the intestine* could be seen by him. It was suggested that the gas developed in the intestinal canal might have removed the invagination. There was a swelling in the right iliac region.

A chemical analysis is recommended; at the same time that the *examiner himself sees nothing in this autopsia but a chronic gastro-enteritis*.

The law authorities, dissatisfied with this report, appealed to MM. ORFILA and ROSTAN, to give a chemical analysis and a pathological examination in the case of Madame Saint Eloy. The intestines were put into a suitable vessel, and sent to those gentlemen.

In reply to different questions proposed to them, they answer as follows.

There does not exist either in the stomach or intestines, any foreign matter which could be of a poisonous character.

The marks of violent inflammation which exist might be the effect of a poison of which no remains could be found; but the morbid appearances are sufficiently explained by the strangulation which the reporters discovered.

It is easy to learn by the state of the intestines the disease of which Mademoiselle Saint Eloy so suddenly died.

The state in which the intestines would be in case the person had been poisoned might be described, but there are deleterious matters which do not leave any sensible traces behind them.

In explanation of the allusion above to strangulated intestine, we must state that the reporters MM. ORFILA and ROSTAN, with whom at their own request, was associated M. J. P. BARRUEL chemical assistant to the faculty, having taken the intestines out of the sealed glass vessel and unrolled them, they discovered a strangulation of the colon, about three or four inches from the cœcum, and formed in the following manner:

A fatty appendix of about an inch in length and a line and a half in its greatest thickness, adherent by one extremity to one of the faces of the mesentery near the intestine, had contracted a morbid adhesion by the aid of a ligamentous band on the opposite face of the corresponding side of the mesentery, so as to include the ileon in the same way as a ring embraces a purse. [We should call this a strangulation of the ileon, not of the colon]. This cellular ring by compressing the intestine and intercepting thereby the course of alimentary matters and blood, explains in the most satisfactory manner both the symptoms during life, and the appearances after death; a violent colic, vomiting of fecal matters and constipation being the common symptoms of all strangulations. As effects of this condition are also marks of violent inflammation of the stomach and intestines, and gangrene of the parts adjoining the strangulation. The matters on the napkin which contained the intestines, were fat, blood and fæces.

65. *Sulphate of Copper mixed with Bread.*—About the beginning of the present year, thirteen bakers of Brussels were condemned, each to five days' imprisonment, and about six dollars fine, for mixing sulphate of copper, which they called *blue alum*, with their bread. They professed themselves ignorant of the deleterious effects of this salt, and alleged that they employed it on the strength of some French accounts, in which it was represented as making bread whiter and rise better. Five druggists who sold the sulphate of copper were also summoned before the court, but were acquitted on the plea of their not knowing the purposes for which it was intended.

VI. SURGERY.

56. *Polypus of the Vagina removed by the Local Application of Laudanum.*—In HUFELAND and OSANN's Jour. der Prac. heilkunde, (Feb. 1829), Dr KAHLEISS of Gröbzig, relates that, in the summer of 1819, an unmarried woman, 43 years of age, applied to him for advice. She stated that during three to four months, she had been subject to a discharge of blood from the vagina, continuing during the intervals of menstruation. About four weeks previously, it had increased considerably, and had greatly weakened her. The discharge was attended with no pain. She was directed to take a wine glassful of alum whey with cinnamon, daily: from this no benefit was derived. Other internal remedies, principally of an astringent and tonic character, were equally ineffectual. The hemorrhage had increased. The patient would not submit to an examination, and was not seen by Dr K. for eight weeks. She then returned, and informed him that four weeks before, whilst assisting in ironing clothes, she had felt something pass out from the vagina suddenly and with perceptible noise, and that in consequence, she now experienced some inconvenience in walking. An examination being permitted, a polypus was discovered, projecting two inches from within the labia. This had no doubt been forced down, during the exertions of the patient in ironing, through the very narrow opening of the hymen, which still existed in full integrity. The polypus was of a deep red colour, bled upon the slightest touch, and had a lanciform shape. Dr K. having often succeeded in removing nebula and leucomata from the cornea by the repeated application of the liquid laudanum of SYDENHAM, and once, in destroying completely, by the same means, a soft bloody excrescence on the head of a little girl, was induced to make trial of it in the present case. The polypus was well wetted with the laudanum twice a day. In twenty days it was so much reduced in size, as to fall within the opening of the hymen. It being no longer within reach, a canula was passed down to it, and through this was introduced a camel's hair pencil, steeped in the laudanum. In this manner, the whole of the polypus was completely destroyed by the end of the seventh month.

57. *Tumours on the Tongue.*—*Case* 1. A married woman, 36 years old, of a sanguineous temperament, during an attack of "angina rheumatica," for which she had employed a gargle of a decoction of blackberry leaves (Brombeerblätter), observed a small tumour upon the upper surface of her tongue, which gradually increased in size until it occupied the whole of its breadth. Dr STUCKO of Coln was requested to see the tumour, 18 months after its first appearance: it then commenced about two lines from the point of the tongue, and extended backwards an inch and a half, being full one inch thick in the centre, and gradually becoming thinner towards its circumference. He was informed that latterly the increase of the tumour had been very rapid. It was without any pain even when strongly compressed. The patient had been previously affected with rheumatic pain of the head and fever, which had been removed by bleeding, blisters to the neck, and saline purgatives. In the opinion of Dr S. the tumour was produced by an effusion of coagulable lymph consequent upon a metastasis of inflammation to the tongue. He directed a gargle of a lukewarm decoction of "Hb. Scordii," in every eight ounces of which, a half ounce of muriate of ammonia was dissolved. The quantity of the muriate of ammonia was subsequently increased to an ounce. After six times employing this gargle, the tumour disappeared entirely, and the tongue returned to its natural condition. *Case* 2. A child, two years old, of a sickly hydrocephalic appearance, both of whose parents were syphilitic, for which disease, its mother had during her pregnancy been under a mercurial course presented a tumour upon the centre of the tongue, which had first appeared some weeks before it was seen by Dr S., and had in a short time increased to the size of an almond. Six grains of calomel, in doses of one grain morning and evening, were directed. By these, the tumour was reduced in size. The same quantity of calomel was then prescribed in half grain doses at the same periods; by which the tumour was en-

tirely removed. Six months subsequently, the tongue became again similarly affected, and the disease was removed by a repetition of the calomel. The third case is perfectly analogous to the foregoing: it occurred in a child somewhat older, and the same treatment was equally successful. The above cases are related in GRAEFE and WALTHER's Jour. f. Chirur. u. Augenh. No. 3, 1829.

58. *Extirpation of a Cancerous Tumour from the Neck of the Uterus.*—M. DUBOIS reported to the Academy of Surgery, the case of a female, from whom he removed a tumour situated at the neck of the uterus, and reputed cancerous. As the female had never borne children, some difficulty was experienced in drawing down the uterus to the orifice of the vagina. This was however accomplished by a ligature to the neck of the organ, and then the excision was made by means of a curved bistoury. Very little hemorrhage followed the operation.—*Bib. Med. Journ. Jan.* 1829.

59. *Extirpation of the Parotid Gland.*—We learn from the Nouv. Bib. Med. for January 1829, that M. FOUILLAY of Brest has extirpated a tumour of the parotid gland, regarded as cancerous, from a female aged 52 years, which had become painful and interfered with mastication, deglutition, and even respiration. The carotid artery was secured by a ligature at the commencement of the operation; the division of the smaller vessels did not render ligatures necessary, excepting to the internal maxillary artery. A deep and irregular wound remained, which was dressed by means of sutures. No accident supervened. The ligature from the carotid artery came away in fifteen days, and the recovery was complete in seventy-five days. M. LARREY suggests that there was no necessity for the ligature to the carotid artery, and that securing this vessel augmented the danger of the operation. In this opinion most of our American surgeons would probably unite, as they seldom resort to this measure in any of the important operations about the face or neck.

60. *Reduction of the Os Humeri at the Expiration of Five Months.*—M. LISFRANC has effected the reduction of the os humeri in a case of luxation forward, which had existed for five months. The arm was fixed almost in a parallel condition to the axis of the body. Extension was made by ten assistants, while LISFRANC, and his colleague, strongly pressed the head of the bone from below upwards, and caused it to enter the glenoid cavity. At the end of a month, no accident had occurred, and the patient could move his arm in every direction.—*Nouv. Bib. Med. Feb.* This man perfectly recovered, and left Paris to pursue his usual business.—*Arch. General. Feb.*

61. *Tumour of the Rectum Extirpated.*—An individual 30 years of age, had suffered for six months from a tumour in the rectum, about three inches above the anus. It was of an oval form, hard, irregular, ulcerated, moveable, the seat of severe lancinating pains, and presented great resistance to the passage of the fæces. M. MAURIN extirpated it, by making an incision to the extent of five to six lines through the posterior portion of the sphincter muscle. The tumour was gradually drawn down by means of a double hook (érignes) and then cut away with a pair of curved scissors. The tumour was of an oval form, somewhat flattened, more than two inches long, ulcerated on its exposed surface. It was developed immediately under the mucous membrane, and involved also this tissue but not the muscular coat. There was a free hemorrhage from the rectum which was arrested by a sponge, introduced into its cavity. To prevent contraction and adhesions, compresses of lint were introduced at subsequent dressings. Bleeding relieved the inflammatory symptoms which supervened, and in about two months the patient was discharged, perfectly cured.—*Nouv. Bibl. Med. Feb.* 1829.

62. *Excision of the Cervix Uteri.*—On the 11th of December M. HERVEY DE

CHEGOIN presented to the Academy of Surgery, the neck of a uterus, which he had extirpated five weeks previously. The patient complained merely of a slight pain at the moment when the cervix was drawn to the vulva, but did not feel the incision by which the neck was separated. No accident supervened; at the end of the third day her appetite returned, and at the above date she was quite recovered.—*Nouv. Bibl. Med. Feb.* 1829.

.63 *Rupture of the Ilium.*—Dr OTIS records in the second volume of the Boston Medical and Surgical Journal, a case of rupture of the ilium, in consequence of a blow with the fist on the abdomen. The patient suffered paroxysms of intense pain; and died thirty hours after the accident, preserving the powers of his mind to the last moments of life.

Dissection revealed peritoneal inflammation, effusion of the contents of the bowels, and a rent at the superior third of the ilium, large enough to admit the extremity of the thumb.

64. *Trephining.*—The operation of trephining has been successfully employed by Dr JAMES GUILD, of Alabama, in a case of epilepsy, in a gentleman 40 years of age. The disease supervened without any evident cause—there had been no fracture or depression, or other injury sustained; but as the fits returned very frequently and resisted the usual treatment, and as the patient suffered much from pain on the left side of the os frontis, while his general health was materially impaired, it was determined to perforate the bone. The operation was very painful, and excited nervous tremours: there was also an alarming hemorrhage from the diploe which soon however ceased, being followed by a serous discharge, and afterwards by suppuration. The dura mater and brain did not *appear* to be diseased; the latter pulsating regularly. As soon as suppuration was established, the patient's health improved; there was no recurrence of the convulsions, the pain disappeared. In thirty days the wound cicatrized, and the patient was discharged perfectly cured.

Dr G. suggests that the trephine will be found useful in "cases of lunacy, epilepsy, and a great many other affections of the head," hitherto deemed incurable. On what principle however, or under what circumstances it should be employed, he does not inform us.—*American Jour. of Med. Sci. May* 1829.

65. *Luxation of the Clavicle.*—In the Archives Generales for January, Dr F. MELIER has given an account of an apparatus for the anterior luxation of the sternal extremity of the clavicle, with which he has succeeded in preventing any deformity. He suggests that it will also be advantageous in fractures of the bone, where there is an angular displacement anteriorly. No accurate idea can be given of the apparatus without the assistance of a plate. We may, however, observe, that it consists of DESSAULT's apparatus for fractured clavicle, as modified by BOYER: to which is added a large oval compress, fixed by means of an iron plate to one extremity of a steel spring, (resembling in its form the common truss for hernia, but consisting of three plates). The other extremity is fixed to a rectangular steel frame, which is fastened to the corset behind, and is made to press on the scapula. The compress is applied over the luxated extremity of the clavicle, on which it is firmly pressed by the spring which passes over without touching the shoulder. The frame on the scapula not only affords a support for the spring, but greatly contributes to keeping the shoulder bone at rest, a point of great and acknowledged importance in injuries of the clavicle.

Dr M. applied this apparatus to a child four years old, whose clavicle had been dislocated at the sternum three weeks previously, so that much deformity had resulted. The apparatus was worn night and day without injury, for three months; no displacement occurred after its application, and when removed the bone did not in the least project, so that no deformity is observed. This, it is needless to observe, is an important circumstance, to females especially; and the success is much superior to that of other surgeons.

66. *Foreign Body in the Œsophagus.*—Dr J. B. **Boileau** has succeeded in extracting a piece of copper money which was lodged in the œsophagus, about an inch below the pharynx, where it had remained eight hours, causing much pain, and severe but ineffectual efforts to vomit. The patient could with some difficulty swallow liquids and soft aliment. Dr B. fixed a small conical portion of compressed sponge to the extremity of a piece of whalebone, and succeeded in passing the sponge thus secured into the stomach. Here he retained it, notwithstanding the patient's efforts to vomit, some minutes, until the sponge was distended by the fluids of the stomach. The instrument was now slowly withdrawn, the sponge completely occupied the canal of the œsophagus, and thus the foreign body was brought into the mouth with the sponge.—*Arch. General. January* 1829.

Our readers will remember the plate and description of the improved and valuable apparatus of Dr **Bond**, as presented in the 12th number of this Journal. Should his instrument not be easily procured, the means here recommended may sometimes be successfully employed.

67. *Tracheotomy.*—Dr **Mazier** performed this operation in the case of a child aged four years, in which a bean was drawn into the trachea. On opening the trachea, the foreign body did not present, but after some irritation, coughing was excited, and the bean was forced to the orifice, whence it was readily extracted. The wound was closed and in ten days the child was perfectly well.

He resorted to the same operation in the case of an infant aged fourteen months, apparently in articulo mortis, from an attack of croup. The trachea being opened, some portion of the false membrane was removed, and respiration was resumed, consciousness returned, and the infant *amused itself* (s'amusa) on the bed for about eight hours, breathing through the wound. During the absence of the surgeon, the dressing was disturbed by a fit of coughing, the wound closed, and in less than five minutes the child died.—*Archives General. March* 1829.

This last case is interesting, as it would prove that tracheotomy may be useful even when an adventitious membrane has formed in trachitis, a proposition doubted by most surgeons, and supported by very few positive facts.

68. *Popliteal Aneurism, cured by a Temporary Ligature.*—It is well known that a very large majority of American and English surgeons, recommend a round and narrow ligature for securing large arteries in cases of aneurism, anxious to obtain the obliteration of the artery, which they think can be most effectually accomplished when the internal and middle coats are ruptured. This practice they believe, is confirmed by experiment, observation, and analogical reasoning.

The distinguished **Scarpa** of Italy, and other good authorities are, however, opposed to this division of the internal coats, and believe that union and obliteration will more readily occur if this division be avoided, by employing broad and flat ligatures. Some surgeons have so much dread of inflammation and ulceration of the artery, as to advise a "*temporary ligature*," allowing it to remain only for a few hours, believing that in such cases, the artery will often continue pervious—and the risk be always lessened. Although decided advocates for the practice first mentioned, we record with pleasure the following case, in which the temporary ligature proved successful, from the Archives General. for March 1829. It occurred to Dr **Folcieri**, surgeon of the hospital at Bozzolo.

A. Rotelli, in the month of May 1828, discovered a swelling in the ham, very painful, so that the least pressure could not be borne. It presented the usual signs of aneurism. The pain was not relieved by any of the usual antiphlogistic measures, and as the tumour daily enlarged, the operation was performed on the 5th of June 1828. The crural artery was exposed on the front of the thigh, and was secured by a flat ligature, made with six threads—a small cylinder of linen, covered with wax, having been interposed between the vessel and the ligature. The pain was immediately relieved, the pulsations of the tumour ceased, and its volume was much diminished. The wound, except at the middle portion, where the ligature was situated, was closed by adhesive strips. June 6th. Severe fever; very painful swelling of the wound; two bleedings in the day; a purgative enema, and a solution of cremor tartar as a drink. The bad symptoms diminished rapidly, and about the end of 24 hours, suppuration was established: the ligature and linen cylinder were removed; the lips of the wound were approximated and united with the usual rapidity. The aneurismal tumour daily diminished, so that by the 22d of August, no trace of it existed, and the patient was discharged perfectly cured.

69. *Varicocele.*—M. Amussat has proposed to treat bad cases of varicocele, where it becomes a real infirmity, by tying up all the supplying arteries. He imagines that in most cases it will be sufficient to secure merely the spermatic artery. He has operated in one case: the disease was greatly lessened, and the testicle also diminished in size.—*Arch. Gen. March.*

70. *Ganglions.*—The pathology of the tumours thus named, has been little understood, and we therefore translate the following notice from the Jour. Univ. for Feb. 1829. M. Dupuytren no doubt was the first who has given a complete history of these tumours in his clinical instructions. He cites interesting cases to show that they are altogether foreign to the nerves. He has dissected them in the dead subject, and while extirpating them, he has designedly removed a large quantity of the cellular tissue, but has never discovered any nervous filament adhering to their surface. The names of ganglions, nervous ganglions, neurome, (névrome) painful sub-cutaneous tubercles, should be rejected, as they give a false idea of their nature and seat. M. Velpeau has also satisfied himself by minute dissections, that these tumours are unconnected with the nerves.

Caused by accidents or some unknown cause, they are more frequently observed in the lower extremities, and are usually preceded by some pain in the part. At first of the size of a millet seed, they regularly increase, the pain becomes stronger, lancinating, sometimes intolerable, the patients not being able to endure the slightest friction from their clothes and their health declining. They should be distinguished from rheumatic inflammation, which, by attention, is generally very easily accomplished.

Extirpation is the best means of removing this affection. Caustics appear to M. Dupuytren to be injurious, as hastening the softening of the tumour without completely destroying it. If the skin covering the tumour be purplish, it should also be removed. If the swelling be already softened it should not be disturbed.

71. *Ligature beyond the Aneurismal Tumour.*—In Vols. I. & V. of this Journal, the reader will find a summary of the operations hitherto performed, in curing aneurism, by applying the ligature beyond the tumour. We find a case copied by the Boston Medical and Surgical Journal, in which Mr D. Evans, surgeon, in Derbyshire, has followed the example of Mr Wardrop, with apparent success. William Hall, aged thirty years, accustomed to a laborious, active life, was affected with shortness of breath, troublesome cough, and tightness of the chest, especially after exercise. These symptoms continued for fourteen months, until the sixth of March (1828 ?) when he had an attack of bronchitis, with violent spasmodic coughing. On the tenth of March, after a severe cough, a pulsating tumour appeared above and on the right of the sternum: the patient's cough now mended, and his health was re-established. The root of the right carotid artery was considered as the seat of this aneurismal disease; and after some consultation with London surgeons, as to the propriety of a ligature *beyond* the tumour, this method was deemed improper. Valsalva's method was adopted on the third of April, and continued until the thirteenth of July. During the first month, there was some improvement. In May, the general symptoms were unfavourable, and the tumour rapidly increased in size. It then remained stationary until the first of July, when it again increased until the twen-

ieth, when it reached as high as the cricoid cartilage, and by its presence, impeded respiration and deglutition. The pulse was weak, and other indications of exhaustion were manifest. On the twenty-second of July, the carotid artery was secured *above the tumour*, by a single ligature of strong silk. On tightening the ligature, the pulsation in the branches of the external carotid ceased. *The pulsation in the tumour continued without diminution.* On the twenty-third and twenty-fourth, pulsation in the tumour was stronger than before the operation, and the pulse in the right radial artery was more forcible than that in the left. Twenty-fifth, became feverish, was bled and purged. Twenty-sixth, better—pulse in right radial stronger than in the left, and pulsation of tumour very forcible. In the evening, pain and fever rendered bleeding necessary. Twenty-seventh, better in the morning; in the evening, much worse—delirious—anxious countenance, sickness, &c. Twenty-eighth, better all day. Twenty-ninth, at seven, A.M. became suddenly much worse, seemed to be dying; and now pulse in right radial hardly perceptible; whilst the left pulsated as strongly as it did on the twenty-eighth. There was also a profuse ptyalism. After several hours he rallied; appeared as well as usual, except that the salivation continued. From this time continued to improve; but from the twenty-ninth, (eighth day after the operation) a gradual diminution of the large arteries of the right forearm and arm commenced, terminating in complete obliteration of these vessels. This obliteration was attended with severe intermittent paroxysms of pain, chiefly felt in the course of the brachial and axillary arteries. The right arm wasted and became partially paralyzed, and continued to diminish for three weeks; at which time several anastomosing vessels were observed pulsating on the back part of the arm. As they enlarged, the limb slowly improved, but as yet, October nineteenth, has not attained its proper sensation or power of motion.

On the 11th day after the operation, he was attacked with intermittent paroxysms of pain in the right side of the head and face of the same character as that in the right arm, though not so violent, which ceased about October 5. The right side of the head and face became emaciated; but since the blood has found its way into the temporal and facial arteries, the right side of the face is nearly as plump as the left. The ptyalism continued from July 29th until the middle of September, about a pint of saliva being daily discharged: it ceased under the use of a small quantity of ale and a more generous diet. In three weeks he could sit up to his meals, but perceived that the whole right side was numbed and weaker than the left. On the 15th of August the pulsation of the tumour began rapidly to diminish, and by the 23d inst. could hardly be detected.

Oct. 19. The obliteration of the right brachial artery is now complete: the pulsation of the axillary artery can be felt. The pulsation in the right radial is scarcely perceptible, but increases daily. Motion and sensation in the whole right side of the body are increasing, but still are more feeble than on the left. The tumour has diminished about one-third, is hard and firm: on pressure laterally no pulsation is evident, but a feeble deep seated pulsation is felt on pressing from above downwards. The ligature had not come away on the 13th of October but the wound was nearly healed. The patient's health was good, and he too daily exercise in a gig, or on horseback, having resumed his usual avocatio that of a butcher. Mr Evans attributes the profuse salivation to the state the digestive organs; the obliteration of the brachial artery to a continuous inflam flammation of the internal membrane from the aneurismal sac, which inflam tion was probably the cause of the severe symptoms noticed on the 8th day the operation: the numbness and debility of the right side was in all proba dependent on the greater quantity of blood, circulating in the left hemisph the brain; for as the balance is restored between the two sides of the brain symptoms are disappearing. The patient's temper is more irritable and mory weaker.

We have, with much pleasure, given the above summary of this very ing case, as it illustrates many physiological and pathological phenomena especially to the mutual and reciprocal influence of the bloodvessels ar

We would also fix attention on the important fact, that the ligature on the carotid artery had no influence on the tumour, until the circulation was also interrupted in the brachial artery; then the tumour diminished, notwithstanding the *vis a tergo* from the heart. Hence, that a ligature, *ultra tumorem*, may be successful, all branches from the affected vessel must be secured, or in some way obliterated.

72. *Lithotritie.*—Mr Robert Liston, says the Edinburgh Med. and Surg. Journ. for April 1829, has performed this operation successfully; but the details, as given, are very unsatisfactory. It appears that a patient, aged 70 years, was admitted into the infirmary on the 10th of November 1828, who for five months had been suffering from symptoms of stone in the bladder. On the 13th of November, Mr Liston introduced Civiale's instrument, but did not succeed in completely grasping the stone; small portions were brought away by the fangs of the instrument and during the night. On the 15th he passed a barleycorn incrusted with calculous matter; another portion on the 16th. On the 18th a small abscess on the scrotum was opened. Instrument again introduced on the 25th, and the stone fairly laid hold of, but crushed by the grasp. Retention of urine frequently supervened from portions of calculi in the urethra. He passed in all thirteen fragments, having entire barleycorns for their nuclei, besides a larger number having only small pieces of the beards. It appears that during the preceding harvest, he had introduced a number of barleycorns into his urethra. After being sounded several times, and no calculus being discovered in the bladder, he was discharged cured 16th December 1828.

VII. MIDWIFERY.

73. *Abdominal Pregnancy.*—This very interesting case was published originally in a recent Danish Journal, by Dr Schulze, district physician for Solöer and Onthal, and translated for Hufeland and Osann's Journal, by Dr Schönberg, from which latter, we extract our account of it. A female, 44 years of age, had been delivered of eight living children, and thrice aborted. She became pregnant for the twelfth time in the spring of 1824. In her fifth month, she stated to her husband and neighbours, that she felt an unusual weight in the right side of her abdomen, and feared that her delivery would not be accomplished without danger. During the entire period of pregnancy, she regularly menstruated. On the 2d of January 1825, two weeks earlier than she anticipated, labour pains commenced. A midwife was sent for, who, upon examining the abdomen, and per vaginam, declared that all was not right. Next morning another midwife was called in. On examination, she found high up in the pelvis, a hard substance, which she supposed to be the head of the child: this could not, however, be moved by the hand, nor did it alter its position during the pains, which were very severe. The pains in a short time entirely intermitted, and continued off for some hours. Subsequently, the patient experienced, at intervals, severe pain in the abdomen, and a bearing down, insupportable sensation at the præcordia. The motions of the child, which had before been distinct and vigorous, even evident to the eye, were now scarcely perceptible. Towards evening the strength of the patient sank rapidly; by 11 o'clock she became insensible, and one hour afterwards died. The examination of the body was made by Dr Schulze. The abdomen was very much enlarged and tense. Its epidermis was of a mottled, blackish-blue colour, and detached itself by the touch. On the right side was a considerable protuberance, within which the form of the child could be detected by the hand. The external labia were very much swollen. The abdominal muscles, of unusual thinness, being divided, and the cavity of the abdomen laid open, the fœtus was discovered, exterior to the uterus, lying on the right side, in immediate contact with the mesentery. Its back presented anteriorly; the feet were bent upon the nates, and lay in the right lumbar

region. The face was thrust down between the uterus and rectum; the occiput being, in part, engaged obliquely within the brim of the pelvis. The left arm lay behind the neck, the right upon the breast. The fœtus had been enveloped by the usual membranes, which were, however, ruptured and disengaged from it. When the head was forced out from the pelvis, its posterior part was discovered to be very much swollen. On removing the fœtus which was now unattached to any of the surrounding parts, it appeared well formed and of the size and appearance of an ordinary child born at the full term of utero-gestation. It measured 18 inches in length, and weighed 8 pounds. The testicles were in the scrotum. The placenta had been attached to the mesentery, and was of the ordinary size and shape, as was also the cord. The abdomen of the mother contained a quantity of bloody fluid. The uterus was but slightly enlarged, but its parietes were rather thicker than in the unimpregnated state. On cutting into its cavity, its vessels were found somewhat engorged with blood. The other viscera were without any marks of disease.

74. *Delivery through the Parietes of the Abdomen.*—A female, thirty-three years of age, of a weakly constitution, pregnant for the first time, when near the period of her delivery (June 10th, 1825), fell down a flight of stairs. When she came to herself, she complained of severe pain in the abdomen; and a considerable discharge of blood took place from the vagina. She was placed upon an antiphlogistic plan of treatment, by which the pains and discharge were suspended. The patient, however, remained greatly prostrated. On the seventh of July, pains similar to those of labour occurred. The external parts of generation were tumid and slightly relaxed; labour, did not, however, appear to advance. There was an abundant discharge of mucus, streaked with blood, from the vagina, constant nausea, extreme debility, paleness, and constant humidity of the whole surface of the body, and a very rapid pulse. Since the fall, the motions of the fœtus had not been felt. In this condition, the patient remained for some days, when suddenly a large inflammatory swelling, with great pain and intolerable burning, made its appearance, in the vicinity of the umbilicus. The external parts of generation remained moist and swollen, but undilated. The tumour opened spontaneously on the 14th, and discharged an inconsiderable quantity of a very offensive matter. In the afternoon, the opening was about an inch in diameter, and through it was perceived the fœtus, in a state of complete putrefaction. The hip was brought through the opening with some difficulty—it readily detaching itself from the residue of the fœtal body; the thigh and leg followed, and the remaining parts, together with the membranes, &c. were removed piecemeal, by a common lithotomy forceps. During the removal, which occupied full two hours, tolerably active contractions, with pain of the uterus, were experienced. The opening was covered with dry charpie; it being, however, previously washed out by injections into it of lukewarm water and chamomile tea, *which flowed out, in part, by the vagina.* A discharge, similar to the lochia, took place from the latter, and also from the opening. The patient was directed a nourishing diet and tonics. The pain and discharge gradually diminished, and by the 23d of July (1823?) the opening into the abdomen was contracted to the size of a common quill, and by the end of August, closed completely; the patient having acquired her ordinary health and strength. The opening, through which the child was discharged, was situated on the right side, about an inch behind and below the navel. No unusual form of the uterus had been noticed, which would have led to the suspicion that the child had escaped from it; and that such was not the case, is rendered almost certain, by the fact of the uterus regularly contracting during, and subsequently to, the removal of the fœtus; by the discharge of the lochia from the natural passage, as well as through the opening, and by the escape of the fluid thrown in at the latter, from the vagina. The most remarkable feature in this case, is the circumstance of its having terminated without destroying the life of the mother. The foregoing case is related by Dr MULLER of Lowenberg, Silesia, in RUST's Magazine, Vol. XXVIII. No. 1, 1823.

75. *Cæsarean Operation.*—Dr MULLER, of Löwenberg, in Silesia, resorted to this operation in July 1822, in the case of a very deformed female, 33 years of age. The waters had been discharged for 24 hours; the mother was conscious of the child's movements, and its head was not wedged in the pelvis. The woman's strength was much exhausted, and no alternative remained between the death of the patient, or immediate resort to the Cæsarean section. An external incision in the linea alba was made, nine inches in length, which exposed the glistening surface of the uterus. A part of the uterus was pinched up, and an incision made where few bloodvessels were observed. Very little hemorrhage followed, and care was taken to sponge the blood as long as it continued to flow. The child, alive and vigorous, was removed by the feet; and soon after the placenta was removed by introducing the hand previously cooled in water. Pressure at this time was made on the abdomen to prevent the admission of air into the cavity. The uterus contracted in the usual manner. The patient's life was afterwards threatened by inflammation and fever. She however recovered; and four years after Dr MULLER saw her in good health. The child lived for more than three months. It then died of convulsions.—*Ed. Med. & Surg. Jour. April* 1829.

76. *Absorption of the Placenta by the Uterus.*—In the London Medical Gazette, is published a letter from professor NAEGELE, of the University of Heidelberg, in which he details several cases in which the whole or a part of the placenta was never discharged after the delivery of the child, but was absorbed by the internal uterine surfaces. The first case occurred to him in 1802, since which he has seen and heard of several others, particularly in premature labours, where no traces of the placenta in a solid or half dissolved form had come away, and this had occurred without any injurious consequences.—*Lon. Med. and Phys. Jour. Feb.* 1829.

VIII. CHEMISTRY AND PHARMACY.

77. *Mr* GRAHAM's *Method of Procuring Absolute Alcohol.*—Cover a large shallow basin to a small depth, with lime in coarse powder, and support a smaller one, containing three or four ounces of commercial alcohol, just above it. Place the whole on the plate of an air-pump, covered by a low receiver, and withdraw the air, until the alcohol begins to boil. Of the mingled vapours of water and alcohol which fill the receiver, the former alone is absorbed by the lime, while the latter is unaffected. An atmosphere of pure alcoholic vapour is thus formed, which effectually arrests the further evaporation of the alcohol; but the water continues to evaporate, as fast as its vapour is absorbed by the lime. This takes place in consequence of the law, that one vapour passes into an atmosphere of another vapour, as it would do into a vacuum.—*Turner's Chemistry, 2d edit., from the Edinb. Philos. Trans. for* 1828.

78. *Weight of Pure Atmospheric Air.*—We learn from Dr TURNER, that Dr PROUT is at present occupied with the investigation of this important subject. His researches are not yet completed; but, as far as they go, he has satisfied himself that 100 cubic inches of pure atmospheric air, at 60° Fahr. and 30 inches of the barometer, weigh at least 31 grains. He, therefore, believes, that the determination of SHUCKBURGH of 30.5 grains, is inaccurate.—*Turner's Chemistry, 2d edit.*

79. *Composition of Crystallized Oxalic Acid.*—Dr PROUT has convinced himself, by repeated experiments, that crystallized oxalic acid consists of one atom of dry acid, 36, and three atoms of water, 27, and not four atoms, as generally given on the authority of Dr THOMSON. This proportion agrees with that

obtained by **Berzelius**, who found the crystallized acid to contain rather more than 42 per cent. of water.—*Ibid.*

80. *Action of the Sun's Rays on Nitrate of Silver dissolved in Common Water; by* M. **Vogel**, *of Munich.*—**Hermbstaedt** having observed that a very weak solution of nitrate of silver, became reddened on the borders of the sea, supposed the change to arise from a gaseous principle contained in the air; in which opinion he was supported by MM. **Kruger** and **Pfaff**. Some years afterwards, M. **Vogel** was led to believe from some experiments of his own, that the change was owing to a muriate, suspended in the atmosphere by aqueous vapour; and subsequently finding that water, in every situation, became red by the addition of a few drops of the solution of nitrate of silver, if exposed to the sun, he was led to believe that in every water, there were traces of some muriate.

M. **Zimmermann** of Geissen, arrived at another conclusion; namely, that a peculiar vegeto-animal matter, to which he gave the name of *pyrrhine*, occasioned these changes. The existence of this peculiar matter was admitted by several German experimenters; and, M. **Vogel**, being thrown into some doubt as to his previous results, was induced to make a new series of experiments. The conclusion to which he has arrived, is, that water, by passing through the earth, or through the atmosphere in the form of rain, comes in contact with organic substances, such as wood, leaves, roots, &c. or with the dust floating in the air, and thus dissolves something, not always identical, which communicates to it the property of reddening in the sun, on the addition of nitrate of silver. As, therefore, the organic matter producing this change, is variable in its nature, M. **Vogel** considers it improper to distinguish it by a peculiar name, as if it were a distinct proximate vegetable principle.—*Jour. de Phar. Mar.* 1829.

81. *Process for extracting Urea; by* M. **Henry**, *Jun.*—Urea having of late been used medicinally in the hospitals of Paris in diabetes and dropsies, the apothecaries were under the necessity of preparing it. M. **Henry** not being satisfied with the small product obtained by the process given in the work of M. **Thenard**, devised the following, which yields a larger quantity. Add to fresh urine a slight excess of subacetate of lead. This will form a precipitate, consisting of the oxide of lead united to the various acids of the urine, together with the mucus and a great part of the animal matter. The decanted liquid is then treated with sulphuric acid in slight excess, to separate the lead, and, afterwards, in the progress of the evaporation, to decompose the acetates of soda and lime, which may have formed. After having separated the white precipitate, concentrate very rapidly over a steady fire, adding a portion of animal charcoal during the ebullition. When the whole has become a clear syrup, pass it through a linen of close texture, and then reduce it one-third by evaporation. By cooling, the liquid is converted into a yellow mass, crystallized in needles, formed of much urea and some salts. The crystals being drained and pressed, are added to those obtained from the mother-waters, treated in a similar manner. They are next treated with a very small quantity of carbonate of soda, with a view of separating any remaining acetate of lime, and then digested in alcohol of 38° or 40°. The alcoholic solution being filtered, and the alcohol separated by distillation, the urea remains, which may be crystallized anew from water, if necessary. The urea, as thus obtained, is in silky or prismatic needles, very soluble, and of a cooling taste.—*Journ. de Pharmacie, Avril* 1829.

82. *Nature of Starch.*—M. **Guibourt** lately read a memoir on this subject before the Section of Pharmacy of the Royal Academy of Medicine. The author first considers the researches of M. **Raspail**, who conceives the grains of fecula to be an organ, each composed of a skin or tegument, insoluble in cold water, and an interior soluble matter, resembling gum; and afterwards reviews the labours of M. **Caventou**, contrary to the conclusions of the former.

The fecula of the potato, when well prepared, is insoluble in cold water; but when levigated upon a porphyry stone, it loses its whiteness and the shining appearance of its particles. If it be now moistened with water, it forms a tenacious paste, and, if beaten in a mortar, it gives a mucilage, analogous to that of tragacanth. These effects are independent of any heat caused by the trituration. The entire fecula, upon adding the aqueous solution of iodine, slowly assumes a sky-blue colour. The levigated fecula, the moment it is brought in contact with water, gives rise to currents, which are the consequence of the emission of the soluble matter from the torn granules. The solution of this matter, especially when it is assisted by a gentle heat, permits the torn teguments to be readily seen. Concentrated acids and alkalies dissolve the granules entirely, and hence do not furnish the means of distinguishing the teguments from the soluble part. The aqueous solution of iodine, added to a solution of the levigated fecula, produces at first a sky-blue colour in the dissolved portion; but very soon causes, in the teguments, a deep blue colour, approaching to black, which arises from the concentration of the iodine in the interior of the envelopes. Hence M. GUIBOURT supposes that fecula is formed of granules, consisting of insoluble envelopes, containing a soluble matter. The latter, freed from the envelopes by filtration, retains the property of striking a blue colour with iodine. M. GUIBOURT has also observed, in common with MM. COLIN and GAULTIER DE CLAUBRY, that fecula, which has been rendered blue by iodine, loses its colour by agitation, even in close vessels; a circumstance which is attributed to the formation of the white protiodide of starch, and not to the loss of a volatile principle, as supposed by M. RASPAIL. The soluble part of the fecula, even after long ebullition, still retains its property of becoming blue with iodine; for this portion is not gum, as M. RASPAIL supposes.

M. GUIBOURT afterwards ascertained that the envelopes and the soluble part of the granules of starch differ chemically but little from each other. Both portions are rendered blue by iodine, and are precipitated by galls and metallic solutions. The envelopes are dissolved by ebullition in water, and appear not to differ from the substance in the interior of the granules, except that their texture is more dense.

As starch is thus proved capable of being rendered soluble by simple trituration, it will soon come to be employed in place of gum in the arts. This method alters the fecula less than torrefaction, which has heretofore been employed to effect the change into gum.

The starch of wheat consists of very small granules, and furnishes less of the envelopes than potato starch. *Arrow-root* presents larger granules than starch; and it gives less consistence to boiling water, which appears to arise from its containing more water. *Tapioca*, after having been dried on warm iron plates, consists of burst grains, forming irregular lumps: it strikes a deep blue with iodine. *Sago* is the least soluble of the feculas in boiling water. Its reddish colour is not owing to a slight torrefaction, as has been supposed, but to a distinct principle, which operates to glue the grains together. *Salep*, which has been so well examined by M. CAVENTOU, is not a fecula, but a substance which presents many of the characters both of bassorin and starch. It also becomes blue with iodine.

M. THEODORE DE SAUSSURE has given the name of *amidin* to a product of the spontaneous alteration of starch. M. RASPAIL considers it to be the teguments of the starch which have escaped decomposition, and M. CAVENTOU, his modified starch. Its properties are intermediate between those of gum and starch. It is partly soluble in cold water, and entirely soluble in water at the temperature of 140°. It becomes blue by iodine. M. GUIBOURT regards amidin as uniting the properties, assigned by M. RASPAIL to the teguments of starch, and those which M. CAVENTOU attributes to his modified starch.—*Journ. de Pharmacie, Mars.* 1829.

In the Journal de Chimie Médicale, for April 1829, is contained a note by M. GUIBOURT, supplementary to his memoir on starch, on the *hordein* of PROUST.

This substance he considers to be the teguments of starch, mixed with a small quantity of ligneous matter.

83. *Detection of mixtures of Potato Starch with Wheat Flour.*—M. Henry proposes to detect this adulteration, by ascertaining the quantity of gluten in the suspected flour, and comparing this with the average quantity in good flour. He finds the average per centage of dry and pulverulent gluten in good flour, deduced from the examination of from twenty-five to thirty samples, to be ten and a quarter; while the percentage in the adulterated flour was only six and a half.—*Journ. de Pharm. May* 1824.

84. *Crystallizable Matter of the Essential Oil of Orange Flowers; by* M. A. Plisson.—*Preparation.* Add alcohol of 35° of Baumé, to the volatile oil, until it ceases to produce a white precipitate. The precipitate is then purified by edulcoration with alcohol, solution in sulphuric ether, and re-precipitation by alcohol. To obtain it crystallized, its solution in ether is evaporated spontaneously.

Properties. When obtained by means of ether, the matter is in white, pearly crystals, without taste or smell, or action on vegetable colours, and having some resemblance to spermaceti, slightly triturated. Cold concentrated sulphuric acid does not act upon it, but chars it with the assistance of heat. Boiled with twenty-five times its weight of concentrated nitric acid, until the acid was half evaporated, a part volatilized, and the rest remained unaltered. Muriatic acid, either hot or cold, had no action on it. M. Plisson proposes the name of *aurade* (aurantium, adeps) for this new substance.—*Journ. de Pharm. May* 1829.

85. *Nature of Copaiba.*—Mr Durand, of this city, has given an interesting memoir on this substance in the Journal of the Philadelphia College of Pharmacy. According to his experiments, it dissolves in twenty-five times its weight of alcohol of 35° of Baumé, with the exception of a fatty matter, which precipitates in the form of semifluid, transparent, yellowish globules. It is totally soluble in ether.

Mr Durand confirms the fact observed by M. Miale, that copaiba may be solidified by magnesia, so as to form a mass of a convenient pilular consistence. (See Vol. VI. p. 204 of this Journal for M. Miale's results.) He also finds, as mentioned by the French pharmaceutist, that the solidification will succeed only with magnesia which has been strongly calcined; and that this change is a test of the purity of the copaiba.

Mr Durand, from his experiments, deduces the proximate constituents of copaiba to be, an *essential oil;* a *resin; acetic acid; fatty matter,* and traces of *muriate of lime* and of a *sweet principle.*

The essential oil distils over at about 228°. It is limpid and colourless. Sp. gr. 0.880. It is volatile and inflammable, and possesses a peculiar taste, which is far less bitter and acrid than that of the essential oil of turpentine.

Mr Durand finds the essential oil to be a good solvent of caoutchouc. He has also discovered that it is an excellent liquid for the preservation of potassium. At the request of Mr D. one of the editors of this Journal gave the oil a trial for this purpose, and was exceedingly pleased with the result. The alkaline metal, when immersed in it, preserves its bright appearance, while in ordinary naphtha, it becomes covered with a black film. The want of action of potassium shows, as the author of the paper remarks, that the essential oil contains little or no oxygen. The thanks of chemists are due to Mr Durand for the discovery of this important fact.

Mr Durand, in conjunction with Dr Staples, has ascertained that copaiba contains acetic acid; for the acid present, when neutralized by oxide of lead, furnished acetate of lead.—*Journal of the Philadelphia College of Pharmacy, April* 1829.

Miscellaneous Articles.

Henderson's Bichat.—An Epitome of the Physiology, General Anatomy, and Pathology of BICHAT. By THOMAS HENDERSON, M.D. Professor of the Theory and Practice of Medicine in Columbia College, Washington City. Philadelphia, CAREY, LEA & CAREY, 1829. Pp. 326, 8vo.

The form of question and answer, in which this work is compiled, is that best calculated to arrest the attention, and impress on the memory of the student, those grand principles of medical science, so intimately associated with the name of BICHAT. The epitome of Dr HENDERSON ought and must find a place in the library of every physician desirous of useful knowledge for himself, or of being instrumental in imparting it to others, whose studies he is expected to superintend.

Fitch's Dental Surgery.—A System of Dental Surgery. In three Parts. I. Dental Surgery as a Science. II. Operative Dental Surgery. III. Pharmacy connected with Dental Surgery. By SAMUEL SHELDON FITCH, M.D. Surgeon Dentist. New York, G. & C. & H. Carvill, 1829. Pp. 568.

This volume, by Dr FITCH, a dentist of our city, must satisfy the greatest lover of references and authorities on Dental Surgery. Its industrious compiler will, however, soon discover that careful elaboration of opinions and testimonies is not less essential to the purposes of sound instruction, than slow mastication by good teeth, to healthy digestion. Time and the judicious selection of materials are equally necessary for success in both cases. As we are without a standard by which to judge works of this nature, the author of the present one may still claim and receive commendation for what he has already accomplished —with the express understanding, that much yet remains to be done.

Edwards on the Physiological Characters of the Human Race.—Des Caractères Physiologiques des Races Humaines, considerés dans leurs Rapports avec l'Histoire. Par W. F. EDWARDS, D.M. Paris, 1829. Pp. 129.

This interesting essay on the physiological characters of the varieties of the human species, considered in connexion with history, is addressed in the form of a letter to M. AMEDEE THIERRY, author of the history of the Gauls. Dr EDWARDS does not lay much stress on the modifying influence of climate. He believes that the physical peculiarities of a race may be preserved for a long series of ages, and that even after a people are dead in history, they may yet be shown to be in fact numerous; and their consanguinity or common origin with other and occasionally remote nations proved, by the possession of common physiognomical traits. The Jews are a remarkable example of this fact. A strong family resemblance is found between those pictured on the tomb of the ancient Egyptian king, brought by Belzoni to London, the figures in the Last Supper of Leonardo da Vinci, and the Jewish inhabitants of London at the present day. It is very obvious that history may derive useful aid from this department of physiology, as it has already done from a careful comparison of the languages and dialects of the different nations scattered over our globe.

Adelon's Physiology.—A second edition of Professor ADELON'S large work on Physiology, has recently been published in Paris. It is the most complete and impartial summary of experimental and theoretical physiology extant.

Blainville's Comparative Physiology.—Among the publications which promise to enrich physiology and illustrate natural history, is the *Course of General and Comparative Physiology*, by the celebrated DUCROTAY DE BLAINVILLE. It consists of his lectures as Professor in the Faculty of Sciences of Paris, and will appear in numbers. Two have already reached us.

Edwards's & Vavasseur's Materia Medica and Pharmacy; translated by J. Togno, M.D. & E. Durand.—In the press, and speedily will be published by Carey, Lea & Carey, Materia Medica and Pharmacy, by H. M. Edwards, M.D. and P. Vavasseur, M.D. comprising a concise description of the articles used in medicine; their physical and chemical properties; the botanical characters of the medicinal plants; the formulæ for the principal officinal preparations of the American, Parisian, Dublin, Edinburgh, &c. pharmacopœias; with observations on the proper mode of combining and administering remedies. Translated from the French, with numerous additions and corrections, and adapted to the practice of medicine and the art of pharmacy in the United States. By Joseph Togno, M.D. member of the Philad. Med. Society, and E. Durand, member of the Philadelphia College of Pharmacy.

New York Medical and Physical Journal. The first number of a new series of this work, commencing with April of the present year, has recently appeared under the immediate editorship of Dr PEIXOTTO, assisted by a number of gentlemen, principally resident in New York. The publication is enlarged, and somewhat altered in its plan. We regret very much that it was received too late, to enable us to glean from its important contents for the present number.

New York College of Pharmacy.—We learn with much satisfaction, from the New York Medical and Physical Journal for April, that a College of Pharmacy has been established in that city.

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THE

NORTH AMERICAN

Medical and Surgical Journal.

OCTOBER 1829.

Original Communications.

Article I.—*Inaugural Essay on Delirium Tremens.* By Joseph Peace, A.M.

The subject of the present thesis has been treated and recognised by medical writers under the various and vague appellations of delirium tremens, brain fever, mania â temulèntia, mania a potu, and others.

Instead of enumerating the objections to the above appellations, by a consideration of the vagueness and inapplicability of such terms, I shall without reference to the claims of priority or authority, adopt that term which appears to me the most unexceptionable.

That the matter of these pages may be duly appreciated, it is proper that I should premise, that it is the result of personal observations made during a residence of one year in the medical department of the Philadelphia Alms House.

Whatever diversity of sentiment may exist among those who have directed their attention to the "modus operandi" of the cause in the production of delirium tremens, they may be considered as unanimous in the opinion, that it is produced by the "sudden cessation of the habitual and immoderate use of stimulo-narcotic substances."

It is a law in the animal economy, that as the constitution becomes habituated to any stimulus, the effect of that stimulus decreases: to preserve and continue the effect originally produced by excess of stimulus, it is necessary therefore to increase its quantity. If the system shall have been influenced for a long period of time by the frequent and increasing quantity of stimulus, and this stimulus be abruptly withdrawn or suspended, the system sinks to a degree more or less below that which would otherwise constitute a state of health.

There is another law not less general and familiar, viz. that the system possesses an inherent power variously denominated vis medicatrix, vis vitæ, &c.; and it is certain that when inroads are made upon the natural and healthy organs by stimuli or other causes, this power, by whatever name it may be called, is exerted to a certain extent to accommodate the system to these morbid impressions. To this law or power of the system generally, is attached an independent agency—what I understand by it, is, merely, a disposition in the constitution to recover from disease, and in its operations harmonizing with the general laws of the animal economy. In the illustration of these laws and their application to a diseased state of the system, the effects of an habitual and immoderate use of ardent spirits may be cited.

If we administer to a stomach unaccustomed to the alcoholic impression a certain quantity of this liquid, the first effect is that of a diffusible stimulant, as evinced by a preternatural excitement of the organs and functions generally, and of some more particularly. From the close and ready sympathy existing between the stomach and brain in a healthy state, the functions of this latter organ are especially stimulated, and subsequently depressed or impaired. In consequence of the excitability or susceptibility to impression becoming obtunded, it is necessary to increase the quantity of ardent spirits to produce an effect equal to the original one. The system thus alternately suffering from these opposite impressions, calls forth all its recuperative and accommodating powers to sustain itself in a state even approaching to that of health. If in this condition of health, the stimulus be suddenly abstracted, the cerebral and nervous system will be thrown into an irregular and excited action; because, if I may so speak, they have been deprived of their artificial regulating influence: and *cæteris paribus*, proportionably as the system has been dependent on this power, will be the severity of the subsequent symptoms. The *precise* manner, however, in which the nervous system is affected, and its functions varied in this disease, is not fully understood; nor can we expect to pronounce positively and definitely on the pathology of many of its diseases, until its anatomy and physiology are more thoroughly investigated.

However paradoxical it may appear, it follows that this disease is produced by the absence of the remote cause; or, in other words, that the immoderate and habitual use of ardent spirits is the remote cause, and its sudden cessation or discontinuance the immediate or exciting cause.

If a patient has indulged immoderately for a certain period of time, in the use of spirituous liquors, and particularly, if in addition to his usual quantum, he has partaken more freely of this poison a few days previous to its discontinuance, a train of symptoms will be developed which I will endeavour to present in the order in which they have most frequently occurred to my notice.

After the first exhilarating and subsequently depressing effects of the stimulus have passed off, the patient complains of want of appetite, nausea, and sick head-ach; his accustomed draught is solicited, the thirst for water is extreme, the countenance is anxious, tongue is slightly furred, the circulation of the skin is generally languid, the bowels are costive, though occasionally in a laxative state. Although most of these symptoms generally precede those having a more direct bearing on the disease, I have viewed these as consequent on "hard drinking" rather than symptoms of delirium tremens: at least, I have seen all these appearances in drunkards who have never experienced the disease, and I am equally sure that I have seen a few cases in which they have all been comparatively absent. The patient now retires to bed, but is restless, and cannot sleep. If he dozes, it is only for a short time—he suddenly starts from his pillow with a choking sensation, or is roused by some appalling dream. Tremors of the muscles of the tongue, neck, and hands now become visible; these afterwards become general. This state of the nerves, although not a uniform attendant on the disease, forms, in a very large majority of cases, one of its diagnostic characters. To these symptoms succeed strange sensations, groundless fears, great restlessness, and constant watchfulness. These things continuing a day, or more, according to the particular circumstances of the case, a delirium of a peculiar character ensues. The patient fancies a thousand imaginary evils. He is in incessant motion, throws his bed-clothes about him, picks at imaginary objects, converses with ideal personages. He will call on the attendant to protect him from the machinations of individuals who are besetting his life. Satan and his followers are not unfrequently the heroes of his vision. If not confined, he will walk wildly about his room, dress himself, and demand his freedom, stating the necessity of his personal attendance to his affairs. These hallucinations are almost uniformly of an unpleasant character to the patient. In one instance only have I seen an exception to this remark.

With this disorder of the cerebral functions, other changes take place, or previous symptoms become aggravated. The head is preternaturally hot, the eyes are more wild, the skin is sometimes natural, or bathed in a profuse perspiration. The pulse is full, compressible, and somewhat accelerated. The tongue varies in its appearance: in violent cases I have seen it of a bluish aspect; occasionally dry and cracked. In a few instances it has continued moist and natural. The breath is commonly offensive. The stomach in general will retain its ingesta, at other times it is irritable, and the patient loathes food.

If there co-exist with the delirium an acute inflammation of the pleura, or of any other tissue, the patient for the most part insists that he is free from pain. Sometimes he exhibits proofs of astonishing strength; these paroxysms, however, are of short duration, and are followed by a correspondent state of muscular debility. If the disease is not arrested, symptoms of cerebral congestion supervene, which often terminate in serous effusion and death.

Various modes of treatment have been recommended by different authors, according to the respective views they have entertained in relation to the pathology of the disease in question.

It is not my intention to enter into a consideration of the merits or demerits of the reasonings which have been adduced by various theorists to support their peculiar views. There is, however, a pathological doctrine which has been advanced by professor JOSEPH FRANK, and adopted by Dr SPERANZA and others, which I believe to be erroneous, and calculated to do essential harm, inasmuch as its disseminators are individuals of high rank in the profession. They consider the disease to be an absolute phrenitis or encephalitis, and advocate an antiphlogistic treatment, to the exclusion of opiates.

A consideration of an opposite mode of treatment, as detailed in the appended cases, and the appearances which post mortem dissections have revealed, will, I trust, without reference to other evidence, prove such a theory false, and fraught with evil tendencies.

Formerly the emetic treatment, founded on a gastric pathology, as taught by Dr Klapp of this city, was exclusively adopted in the Alms House infirmary. This practice has been superseded by that which may be considered the most popular, and which is at present inculcated by professor Chapman of the University of Pennsylvania.

With a view to the treatment, I will endeavour to present in general terms the indications to be fulfilled, and the most successful means of attaining them, as practised in the Alms House.

The minutiæ of the treatment, and the occasional complication of the disease, as well as a correspondent adaptation of remedies, will be seen in the cases referred to.

The means and remedies employed may be said to have in view the accomplishment of two principal indications:

To prepare the system for the reception of those remedies calculated to induce sleep.

The administration of those means most speedily effectual in its production.

Purgatives.—In mild cases it was usual to administer a gentle purge to open the bowels, and prepare the stomach for the reception of opiates. Senna and a neutral salt were very common. A purge of calomel, with a grain of opium, followed by half an ounce of oil, was not unusual, when the liver was torpid, and the secretions generally deficient.

In some violent cases, it was deemed generally preferable to administer an enema, that no time should be lost before the exhibition of opiates. Rhubarb will be found peculiarly appropriate in this disease, as its operation on the bowels is but slightly influenced by narcotic articles. During convalescence, the costive disposition should be guarded against by mild laxatives and enemata.

Cold affusions.—During the term of my juniorship, my senior in office frequently subjected those cases of violent delirium (when not contra-indicated) to the operation of the cold shower-bath, with the effect of reducing the temperature of the head, and rendering the delirium less violent. I have thought that opiates administered after this operation acted more efficiently. In the winter season, for obvious reasons, the bath was not used; cold wet cloths applied to the head, and an occasional hot pediluvium proved an excellent substitute.

Blisters.—A blister applied to the nape of the neck, or sinapisms to the extremities, by diverting the circulation of the blood from the brain, proved of essential service.

A blister or mustard plaster was occasionally applied over the epigastrium to compose an irritable stomach, or to awaken its sensibility to the operation of internal remedies. In the congestive stage, or after serous effusion had supervened, this class of remedies was invariably had recourse to.

Blood-letting.—Bleeding was seldom practised in this disease unless there was unequivocal evidence of an approaching apoplexy, congestion, or inflammatory complication. Under these circumstances it was looked upon rather as a choice between two evils. The abstraction of a few ounces of blood by cups, was generally preferred to depletion from a vein. They were usually applied to the back of the neck in preference to the scalp, as convulsions or other unpleasant symptoms were, in more than one instance, consequent on their application to the latter. They seemed to act on the principle of ligatures, especially when the skin was not freely scarified.

Those who would advocate venesection under the idea that the disease is phrenitis, will find something in the history of the following case to wonder at or discredit. There is at present residing in the Alms House a man of a robust frame, by the name of Charles P., who has been the subject of nineteen successive attacks of delirium tremens. In two attacks only was he bled, and in these as in all the others he was treated by opiates. If his brain had been the seat of inflammation during each paroxysm, he is at least a living evidence of the antiphlogistic powers of narcotics generally, and opium particularly. It has been a subject of controversy whether "bleeding in patients predisposed to this complaint produced or increased it." I have seen a patient who, to use a common expression, was "bled into" a paroxysm of this disease, whose energies (if not bled) would probably have fortified the system against the attack. The evidence derived from an "a priori" consideration of the nature of this affection favours this opinion.

Does not an approach or approximation to this disease arise from a cause that debilitates the system? Is not the power of the blood very great in maintaining the vis medicatrix in opposition to the further morbid effects of this debilitating cause? If then, a portion of this fluid be abstracted from the system, this renovating power becomes more impaired. The equilibrium of the system is destroyed, the morbid tendency prevails, and the phenomena of delirium tremens result. Aware of this fact, the students of the House used the lancet with much caution in the diseases of such patients as were intemperate and recently admitted.

I come now to the consideration of that class of remedies which should be administered to meet the second and most important indication; the successful effect of which has been termed a "sine qua non" in its cure.

Opium.—The amount of opium necessary to ensure success varies so much in different individuals, that no specific rule can be laid down. The only rule by which we are to be guided, is to exhibit the narcotic at short intervals, until a disposition to sleep is manifested, or until symptoms of congestion, apoplexy, or other contra-indicating effects or appearances arise; when its use should be suspended or discontinued and recourse should be had to other measures. It was usual to direct three, four, or even six grains in powder every hour or two, according to the violence of the disease, and the habits of the patient. After two or three doses have been taken, it is all important that the attendant or physician should carefully watch the patient to observe the effect of the succeeding doses.

When the tongue or skin is dry, opium combined with a small portion of the blue mass or calomel, by stimulating these secretory surfaces, will dispose the system to be more readily acted upon by the narcotic.

A few drops of the spirit: terebinthinæ administered simultaneously with the narcotic, will in some insensible states of the stomach prove decidedly serviceable, by awakening its irritability to the narcotic action.

In some instances, when, from obstinate vomiting or insensibility of the stomach, the opiate impression cannot be thus communicated to the system, the opium or some one of its preparations may be exhibited in the form of enema; thus directed, the narcotic power will sometimes be happily exercised. After a sound and refreshing sleep of six or twelve hours has been obtained, according to my observation, the patient has uniformly awakened with his mind perfectly sane, or very slightly confused. Towards evening there is a tendency to a recurrence of the delirium; this should be guarded against by the exhibition of two, three, or more grains of opium at bed time.

The acetum opii and tinctura opii were sometimes administered, mixed with the drinks of the patients. The facility with which they may be deceived in this way, and the less liability of the former to offend the stomach and distress the head, are advantages, which, under some circumstances, they may possess over the powdered opium. Dr Coates, who advocates in strong terms the opiate practice, states, in his excellent treatise on this disease, that he has "never seen, read of, or heard of, an instance in which opium was productive of any harm."

It may not be improper to remark, that from inattention to the rules for administering this remedy, from the latent accumulation of its power in the system, and its sudden development, or from some other cause, two or three patients were brought into imminent danger, as manifested by all the symptoms consequent on an over dose of this drug.

Clements, an agent in the Alms House, was attacked with delirium tremens; his delirium proving very violent, twenty drops of acetum opii were exhibited every hour. This treatment was adhered to for three days in succession, when stupor ensued; his respiration now became stertorous, face livid, capillary circulation almost suspended. The black drop was immediately discontinued, and recourse had to blankets dipped in hot water and applied to the surface. Hot brandy, blisters, sinapisms, stimulating enemata were also used in less than an hour. Nature so far responded to our efforts, that our patient was enabled to walk about, and what was more remarkable his delirium had almost left him.

Assafœtida, camphor, tincture of hops.—All these articles were more or less employed in combination with opium or its preparations; but I am not satisfied that the anodyne effect was improved. In this remark perhaps the camphor should not be included, as I have observed it in some exhausted states of the system, to co-operate with the opium, and produce very desirable effects.

Stimulants and tonics.—In violent vomiting, I have seen a dessert spoonful of brandy or whiskey, given at short intervals, compose the stomach, after all the usual remedies had failed.

When the system is much reduced, the delirium violent, skin and tongue moist, pulse weak and soft, and especially if the patient eagerly solicits stimulating drinks, brandy, or some other form of alcohol may be taken in some instances to a very great extent, with the effect of sustaining the vital powers and co-operating with opiates in the production of sleep. In a majority of cases porter was freely drank by the patients, to the exclusion of ardent spirits.

The diet should be of a nourishing kind; care should be taken, however, not to overload the stomach, especially when there is a tendency to congestion in the brain. Chicken soup moderately spiced, or the essence of beef, and the farinaceous articles, are proper articles of diet. Coffee is very grateful to the stomach, and from its invigorating powers answers well.

During convalescence, in addition to the above, sulphate of quinine, carbonate of ammonia, capsicum, valerian, columbo, and ginger tea, are invaluable remedies for restoring the tone of the digestive apparatus, and imparting strength to the general system.

The order observed in the following cases has reference to their degree of severity and manner of termination. In this way, the character and management of the disease in its mildest as well as in its most inveterate form, will be best illustrated.

Oat Davis, admitted June 13th, 1827.

Symptoms on admission.—Has general tremors; mind irrational; very restless; determination of blood to head, producing pain; skin dry and hot; feet cold; eyes injected; pulse frequent and hard; bowels costive. Directed senna tea; cups to back of head, followed by cold applications; hot pediluvium.

Evening.—Found his head relieved by the cups; skin moist; tongue natural. Directed fifty drops of acetum opii.

14th. Slept some last night, which has relieved his tremors and delirium. Directed small doses of acetum opii during the day, and thirty drops at night. Porter for drink.

15th. Slept all night, and is now quite sane.

John Pluck, admitted January 13th, 1827.

Symptoms.—Face flushed; head hot; skin warm and dry; pulse accelerated; tongue foul; has some tremors, and is flighty at intervals. Directed cups to back of neck, and a purge of senna and manna.

14th. Was quite irrational all night, and is now very talkative and restless. His mind is turned on the subject of tactics, and has less flush of face. Discharges very dark and offensive. Pulse full; tremors abated; pupils somewhat contracted. Directed the following recipe: assafœtid. ʒiss. tinct. opii ʒiij. aq. menth. ℥j. Half an ounce every hour.

Evening.—Delirium continues; skin somewhat moist. Directed pulv. opii gr. v. every third hour.

15th. Had taken three powders, when sleep ensued which lasted for three hours, when he was accidentally awakened. Seems drowsy and inclined to sleep again. Directed opium gr. v.

Evening.—Has been asleep nearly all day, and is now rational.

Robert Peacock, aged 28, admitted March 15th.

This patient has frequently been the subject of delirium tremens. His attacks have been remarkable for their severity and duration. In one instance his reason was not restored under six weeks.

Symptoms.—Has all the symptoms that characterize the disease; is in constant agitation; annoyed by "black devils and cats," that are gamboling about his room. Bowels opened by an enema last night; tongue moist, and coated with a light brown fur. Directed pulv. opii gr. iv. every sixth hour. Porter to drink.

Evening.—Has taken five powders; his mind is more composed; looks drowsy. Directed the common enema of the House, to open bowels; a large opiate to be given immediately.

16th. This morning found him in a sound sleep and did not disturb him. P.M. He awoke at noon quite rational. Directed an opiate at night.

Andrew Anderson, aged 25, admitted March 8th, 1828.

Symptoms.—Restless; has no delirium; says he is troubled with disagreeable dreams; perspires profusely. Pulse soft and full; tongue nearly natural. Directed porter for drink. One grain of opium every hour.

Evening.—After taking four grains he slept, but awoke with confirmed delirium. He passed his urine for the first time since yesterday morning. Perspiration continues to be profuse. Directed pulv. opii gr. iij. every sixth hour. Enema of senna and manna to evacuate bowels.

9th. Slept a little after taking nine grains. Pulse is soft and calm; after the bowels were opened the perspiration became less profuse. Directed pulv. opii gr. iv. every sixth hour. Porter for drink.

10th. Took three powders and dozed at intervals. Delirium continues; thinks that he will shortly die; but is somewhat reconciled to his fate. Complains of headach. Directed pulv. opii gr. iv. every sixth hour.

11th. I was informed by the nurse, that he slept about four hours after taking twelve grains. When he awoke his mind was less fanciful. Directed oil to open bowels; the opium to be resumed after its operation.

Evening.—On entering the room I found him in an attitude expressive of great terror, holding himself against the wall, under the idea that it was about to crush him. Directed opium gr. v. every hour.

12th. Was informed that he took four powders. Sleep now supervened, which lasted eight hours. He is now rational, and complains of soreness of his muscles. Discharged on the following day.

Sarah Ross, aged 32. Full habit of body. This patient was admitted into a clinical ward February 6th, with well marked symptoms of hæmatemesis. She had several convulsions before and after admission. Her pulse being full, I directed her to be cupped.

7th. Dr Jackson saw her, and directed four cups to the head; magnesia and rhubarb to open bowels; mustard plaster to epigastrium. ℞. Sacch. saturni, gr. ½; conserv. rosæ, q. s. m. ft. pil.; to be repeated every sixth hour. Directed tinct. acet. opii, gutt. xl. as an enema. Gum arabic lemonade as diet.

In the evening I found her with all the symptoms of delirium tremens, and directed her removal to the cells.

8th. *Symptoms.*—Pulse frequent (115), but soft; surface cold, and covered with a profuse sweat; tongue clean, purplish, and rather dry. Necessary to chain her.

℞. Pulv. opii gr. iij. every sixth hour.

Night.—She is still bathed in a profuse perspiration; tongue moist; pupils contracted; pulse about 120, soft but not feeble. She is incessantly picking at the floor and walls, as if they were small objects before her. So natural were her motions, that one of the young gentlemen present actually thought she was picking up long hairs and turning them around her finger. She is in good humour, and is not troubled by disagreeable visions.

9th. Slept nearly all night, and is perfectly rational this morning. Skin almost natural. Complains of head-ach, is hoarse, but says her throat is not sore. Took yesterday 18 grains of opium. Has considerable tenderness of epigastrium.

Ordered the following: ℞. Magnes. ust. ʒj. tinct. rhei comp. ʒij. aq. menth. ℥ij. sacch. alb. ʒij. Half an ounce to be taken pro re nata.

Midnight.—Says she does not feel well, and is indisposed to sleep. Ordered pulv. opii gr. iv.

10th. Continues rational; pulse, skin and tongue in good order; has some head-ach. Allowed porter. She was returned to the medical ward, and shortly afterwards discharged, apparently cured of her gastric affection.

—— Deuty, aged 37; admitted November 3. Of full habit and sanguine temperament.

Symptoms.—Eyes red and injected; skin cool; determination of blood to head, productive of great pain; incoherency of speech; centre of tongue covered with a bluish fur, edges white and moist; craves gin. Directed the head to be shaved; cups to back of neck; hot pediluvium; oat-meal gruel for diet.

4th. Head relieved; no change in other respects. Porter for drink.

Evening.—Disposition to stupor; bowels bound. Directed a purge of calomel and jalap; tinct. opii gutt. xl.

5th. The discharge brought away by the purge was of a dark colour. Pulse small and languid; capillary action also languid; pupils contracted; has more stupor. Her arms will rest in any position in which they are placed. Thirst great; no appetite. Directed camphor mixed, sinapisms to extremities, and brandy toddy. Dr Hodge now saw her, approved of the treatment, and ordered in addition, her head to be shaved and blistered; a stimulating enema was also administered.

P.M.—Stupor increasing; face more flushed and livid; pupils contracted to the size of a pin's head; respiration heaving; pulse improved.

Evening.—Is almost rational, owing probably to the vessels relieving themselves by effusion; perspiration irregular. Directed stimulating frictions, carbonate of ammonia, hot bricks, &c. &c. Died that evening.

Autopsis.—Stomach of a light pink colour; mucous coat natural as to thickness; liver enlarged.

Brain.—On cutting through the scalp its vessels were found very much congested. The vessels of the pia mater injected with dark venous blood. On the surface and at the base of the brain there was a little effusion. The fifth ventricle was found greatly distended with pure serum. The other ventricles contained more or less of the same fluid; their vessels were also congested.

Ellen Mooney, aged 30. Of full habit. Admitted November 22. Has been very intemperate for the last six months.

Symptoms.—This patient had several convulsions before her admission, for which she had been bled. Face pale; head rather warm; eyes natural; capillary circulation languid; feet cold; pulse not perceptible; respiration hurried; speech indistinct and incoherent. Directed frictions of spirit. terebinth. and enema of the same, combined with mucilage. Flying sinapisms. Whiskey to be freely drank.

Evening.—Is somewhat improved; pulse well developed; skin warm; no other change.

23d. Slept some during the night, but not refreshed by it. Has tremors of her hands; eyes injected; is more talkative, crying and laughing at intervals; eyelids disposed to close.

P.M. 3 o'clock.—Is very restless; throws off the bed-clothes; talks wildly; tongue swollen. Directed lac assafœtidæ; external stimuli.

In the evening an enema was administered; acet. morphiæ, gr. $\frac{1}{8}$ every hour. She died early next morning.

Autopsis—Stomach very much contracted; patches of inflammation at its large extremity, in other respects natural; liver large and florid; gall bladder large and filled with healthy bile; some bile was found in the stomach; intestines filled with gas; spleen natural.

Brain.—Watery effusion was found between the scalp and pericranium. The vessels of the dura mater contained but little blood; pia mater much injected; some serum was found in the ventricles, and at the base of the brain; its substance was natural.

General Remarks.—Fat persons with short necks and large heads are more difficult of management than those of an opposite organization. There is a greater disposition to congestion in such cases, and hence we can seldom err by an early resort to revulsive measures in them.

This disease will sometimes develope itself during an attack of fever, and, if not recognized, may be mistaken for acute phrenitis and treated accordingly.

The prognosis is unfavourable when there is injection of the eyes and contraction of the pupils: Under these circumstances opium should be administered with the greatest caution. The state of the capillary circulation should be constantly kept in view, and is of more importance to be attended to than that of the general circulation. When the former is natural and the latter not very active, opium may be administered with safety. Convulsions I have rarely seen, and I have reason to believe that they were of more frequent occurrence when the emetic treatment prevailed. Relapses in this disease are more mild than the original attack.

Dr Ashmead, who availed himself, during a residence of two years in the Alms House infirmary, of every opportunity to examine the brain in this disease, informs me, that, according to the result of his observations, the congestion and effusion in the brain were in an inverse proportion, that he occasionally found an opacity of the arachnoid membrane, especially at the base of the brain, indicative of chronic inflammation. He further states that he has never witnessed an acute phlogosis of that organ in these cases.

To Dr Washington of the Pennsylvania Hospital, I am indebted for the following case; which, from its unusual result and the practical inference to be drawn from it, appears worthy to be placed on record.

Alexander B. aged about forty-five years, of middle size and sanguine temperament, was admitted into the Pennsylvania Hospital 15 November 1827. Two days previously, he had been attacked, and a physician called in. He had rested some, the night before his admission. In the afternoon the peculiar symptoms of mania a potu began strongly to manifest themselves, and by night he had become very noisy and was much disturbed by phantoms. At 8 P.M. while walking about in his room in a state of great excitement, he suddenly fell and instantly expired. His death occurred between two and three days after the commencement of his attack.

Examination, twenty hours after death.

Head.—The incision of the scalp caused some blood to escape. In detaching the upper part of the cranium to expose the brain, the sinuses were opened and discharged several ounces of blood, the tunica arachnoidea appeared milky, where it covered the small fissures of the brain: at these fissures small parts of it raised up appeared thickened. At its base the same milky and opaque appearance was to be seen. The vessels of the pia mater were numerous and somewhat congested. *Brain:* anterior lobes perhaps somewhat firmer than the other parts. Cortical substance natural—medullary portion, on being cut, presented numerous bloody orifices. Left lateral ventricle presented a bloody effusion in the posterior cornu, from a rupture of the vessels of the plexus choroides. This cornu was filled, but the middle cavity contained only a small quantity of blood. Gravitation will account for the situation of the blood, which was mostly fluid and of a dark colour. The amount of it was two drachms. Right lateral ventricle contained one drachm of bloody serum.

Stomach.—Its contents consisted principally of partly digested food. Its surface generally very healthy. Some few red specks, however, existed, and some of its vessels were distended, and exhibited an arborescent arrangement. The small intestines were natural.

Colon.—Hemorrhage had taken place into its cavity to the amount of a pint. Most of the blood was fluid and of a dark colour. The inner surface when washed was very red, and the redness was uniform.

Heart, firm in its texture; and large parietes about the proper thickness. The lining membrane of the aorta and pulmonary artery was of a reddish hue. The valves were of the same hue, particularly the semilunar of the pulmonary artery, and the mitral of the left ventricle.

Remark.—The milky appearance of the tunica arachnoidea, where it passed over the fissures, was owing probably to a slight serous exudation beneath it. After admission of the patient, some lac assafœtidæ and five drops of black drop had been given.

ARTICLE II.—*A Case of Crusta Lactea, with remarks. By* THOMAS D. MITCHELL, M.D. *of Frankford, Pennsylvania.*

From my note book I transcribe the following statement respecting the case of *crusta lactea* which forms the basis of this paper. This disease is classed, by Dr DEWEES and some other writers, among the affections resulting from the process of dentition. My youngest child, when three months old, was attacked with crusta, which is now, February 1829, at the end of his fifth month, exceedingly troublesome. It, of course, came not as the result or attendant of dentition, for that process has not yet commenced. I believe it has resulted from his mother's close confinement to animal food.

When in the month, he had a number of vesicular blotches on several parts of the body, which soon disappeared; but his general health is good, and he is plump and fat.

At one time I touched his forehead with a solution of the nitrate of silver, without benefit. The lotion of acetate of lead, and also of the sulphate of zinc, was employed, without effect. The parts were washed with Castille soap with like results. Various ointments were used, as the citrin ointment diluted, tar ointment, simple mutton suet liquefied, also calomel ʒss. sulph. viv. et lap. calaminar. āā ℈j. adeps suillæ ℥ss. mixed into an ointment. Sulphur and magnesia combined in suitable doses were given daily. It was necessary to give laudanum to allay the pain, itching, &c.

March 1st. The dressings have all failed to give relief, excepting the mutton suet softened with sweet oil: he has been benefited by the use of half a grain of calomel mixed with one grain of prepared chalk administered every evening for some time past. The eruption has a more favourable aspect.

March 20th. Began some days since to renew the ointment of calomel, sulphur and lap. calam.; it seems to agree with the skin better than any thing else; indeed the eruption has nearly disappeared. The bowels are kept freely moved by the use of sulphur and magnesia.

April 19. The calomel ointment has ceased to be serviceable, and we use with benefit the tar ointment very much diluted. It is the common tar ointment, with about four times its bulk of sheep suet added. Continues to take the powders of calomel and chalk.

May 2d. Two teeth have made their appearance in the present week and the eruption is scarcely to be seen; occasionally there is an unnatural redness of the cheeks with much irritation towards evening, but the child is evidently improving. We recently used the common syrup of violets, which probably was serviceable; it acted as a lenient cathartic.

July 1st. The disease is unquestionably cured; now and then there is a little cutaneous irritation, but the skin is sound and free from scars. The weak tar ointment has been continued, and the calomel powders have been used regularly, and when necessary laudanum has been given; but to the calomel, mainly, I attribute the recovery of the child.

To the physician who has seen this distressing disease within his own family circle, I can communicate no more intelligence respecting its true character. But to him who has met with *crusta lactea* only in the ordinary routine of business, I may be permitted to say, that although some other maladies are more frequently fatal, yet there is not in the whole list of diseases, one that gives rise to more distress, whether to the subject or its mother, than the disease now under consideration. The helpless victim is tortured by almost incessant itching, which gives occasion to all the efforts it can employ to relieve the parts by friction on its pillow, or whatever object is nearest at hand. Smarting and pain are the necessary result of this friction, whereby the skin is denuded, and the surface covered with blood, and unless laudanum be given every night, the anxious mother seeks repose in vain.

It is matter of regret, that by far the larger number of authors who have noticed this disease, tell us nothing respecting it, as the result of their own observation or experience. In most instances, the statements given are but copies, into which nothing new or interesting finds its way. The unavoidable inference from this is, that many writers have either never seen the disease, or witnessed it but seldom; otherwise, I am sure, that, the common feelings of humanity would have prompted to fuller and more satisfactory developments.

The best account, because the most concise, that I have met with, is given by NISBET in his work on the Diseases of Infancy, Vol. I. p. 95. It is as follows:—"the *crusta lactea*, or milk blotches; is an eruption of white vesicles, which presently assume a dark colour, resembling the blackening of small pox, and are succeeded by scales, producing an ichory matter, attended with considerable itchiness. The situation of this affection is generally the forehead and scalp, extending half way over the face, and at other times proceeding even farther. The period of its attack is the time of teething, and its effect is to lessen the irritation in the system from this cause. Hence it is considered by many in the light of a critical discharge. The duration of this affection is various; it continues sometimes for months, but generally disappears on the cutting of some teeth. In some cases, again, it is known to appear long before the period of teething, and departs even before this process takes place. Its duration is judged of by the appearance of the urine, which, when fetid and thick, is thought to be short. The treatment consists in doing nothing, but leaving it to nature; an issue, however, joined with a sulphureous mineral, will tend to remove it."

Writers, for the most part, appear to agree in the opinion that this disease is somehow or other connected with the process of dentition. Dr Dewees says*, "we never remember to have seen it before dentition had commenced, nor after it was completed." Dr Underwood says, in his work, p. 47, "I have known it disappear suddenly, previously to any teeth being cut, and after some weeks return with more violence than ever;" and further, "that he has known it to continue two or more years."

Now from what I have seen of *crusta lactea*, and from information obtained from several intelligent medical friends, who have frequently contended with the disease, I feel confident that it is no more a disease of dentition, than is the common affection usually denominated sore ears, or any of the cutaneous disorders prevalent in infancy. If the very same disease called *crusta lactea*, which affects infants now and then during the process of dentition, be found to exist in the earliest months, long prior to the appearance of a tooth, and in some cases to disappear entirely during the teething process, and after a respite of several weeks, to recommence its attacks, with all its original severity; I ask, how can it be denominated, logically and truly, a disease of dentition? It is conceded by writers, that the subjects of this disease are ordinarily, in other respects, healthy, and a part of the treatment is a reduction in the aliment, both as respects the nurse and the infant. It is well known that during infancy, a strong predisposition to cutaneous affections exists. We see it in every part of the body, more especially behind the ears, and about the mouth, and this most commonly in healthy children. In the case of my own child, nothing could be more manifest than the effect of a reduction of its mother's aliment, and if by accident or imprudence of a domestic, the child was permitted to suck and chew a piece of animal food, the eruptive disease was always aggravated. The same result followed a neglect to administer cathartic medicine, almost invariably.

I am confident that the case detailed at the head of this paper was the result of a simple effort of nature to relieve itself of redundant matter, occasioned by the reception into its system of a too highly nutritive aliment. The outlet for this redundancy is in some cases the skin, producing *crusta lactea* or a milder disease; while in others it falls on the bowels, occasioning a troublesome and often unmanageable diarrhea.

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* Dewees on Diseases of Infancy, p. 313.

One of my medical friends has seen the disease in three children of one family, and in all previous to the appearance of a tooth, or any irritation of the gums whatever. In one instance it began in the first month, and continued until two or three teeth appeared. Dr Nisbet tells us he has seen it attack and disappear prior to the cutting of a single tooth. If *crusta lactea* can with any sort of propriety be styled a disease of dentition in any case, I would be glad to know how it can be so denominated in those cases in which its appearance and cessation were anterior to the first stage of dentition? If, as is probably the case, a depletory system of treatment be the most salutary in the management of *crusta lactea*, is not that fact an argument in favour of the position I have advocated in relation to its pathology?

Although I have had occasion to dissent from the views of Dr Dewees in some respects, yet I am fully prepared to agree with him in many of his propositions. He merits applause for his efforts to explode the ridiculous idea that this disease, because seldom fatal, must be left in the hands of nature; and of his remedial treatment, I am happy, for the most part, to express my cordial approbation.

I cannot conclude these remarks better, than by expressing an ardent desire that medical men, who are in possession of facts touching the disease, to the history of which I have thus made an humble contribution, will present them for public use. In vain have I ransacked all the journals to which I had access, to find the detail of a solitary case of *crusta lactea*, and however imperfectly the present history be given, I feel that I have discharged a duty to my medical brethren, especially the younger part, and also to society at large.

ARTICLE III.—*Fatal Case of Colica Pictonum. By* EDWARD JENNER COXE, M.D.

The following case offers so many points of interest both as regards the violence of the symptoms and the post mortem examination, which is given in the words of Dr Horner, who, with his accustomed kindness, consented to conduct the autopsy, that I hope it will not prove uninteresting.

Cornelius Hopkins, a black man, aged 38 years, of robust constitution and frame, and enjoying excellent health generally, has been for some time engaged in grinding paint, and has been constantly exposed to the fine dust of white lead as it is turned out of the barrel. I was requested to visit him May 13th, 1829, and learned that he had suffered constant pain in his bowels, for the last ten days, for which he had drank freely of chamomile tea, and taken his usual allowance of food, though without any appetite. The night preceding my first visit had been passed very uncomfortably, there having been constant violent pain so characteristic of the disease. He had vomited large quantities of a greenish yellow matter repeatedly during the night. The tongue is little altered from its natural appearance, being but slightly furred; nor did it vary during the existence of the disease. The pulse was tolerably full, quick, and yielded readily upon pressure; bowels had not been moved for several days; pressure on the abdomen did not appear to increase the pain. I ordered calomel gr. xv. pulv. opii gr. iss. to be taken immediately, and at the expiration of an hour, a table spoonful of castor oil. Barley water for drink, and mustard poultices to be applied to the calves of the legs. I returned in two hours, and found him writhing with pain. The calomel caused profuse vomiting, and the smallest quantity of any thing taken into his stomach produced the same effect. The pulse is small and hard. Forty ounces of blood were immediately abstracted, followed by slight relief, and an increase in the volume of the pulse. Mustard poultices were ordered to be applied to inner side of the fore arms, and to be continued on the legs. Some hops put in a bag and steeped in boiling water to be applied to the abdomen, and also to have this part well rubbed with warm oil. Directed calomel ℈i. pulv. opii gr. iv. to be mixed and made into four powders; one to be given every hour. Barley water, or cold water for drink.

5 P.M. The bleeding had afforded considerable relief for a short time, since which there have been several attacks of intense pain. The pulse is softer than at last visit, and yields readily to slight pressure. The calomel and opium powders, only two of which had been given, caused profuse vomiting. Neither the hops, nor frictions afforded any relief. Bleeding which I felt disposed to resort to a second time, was not resorted to owing to the state of the pulse and

[illegible] physiognomy of my patient. I directed him to lie on the floor, and have cold water, with some salt added to it, constantly applied to the abdomen, for twenty minutes or longer, if it appeared to diminish the pain. The mustard poultices to be continued, and another powder given as soon as the stomach will bear it. A large injection of a solution of salts, with molasses and oil, is also to be given as soon as possible, and repeated in an hour.

10 P.M. Has had several severe returns of pain. The cold water eased the pain almost immediately, and it continued much less for some time after the cold application. The powder remained on his stomach; and a short time after the second injection had been given, there were two discharges, very offensive, black, and thin. The cold water to the abdomen was ordered to be repeated as often as the pain was felt during the night. Another powder to be given; a large injection of a strong solution of salts, and should it operate, to be followed by an enema of two teaspoonfuls of tinct. opii, in a little mucilage, and repeated in the same quantity in two hours if relief is not afforded.

Thursday, 14th. Has passed a distressing night, great pain at times; began to vomit shortly after the powder was given, and continued to do so at intervals all night; injection produced but little effect, and the laudanum enemas did not lull the pain. The cold water was applied on the first accession of pain and relieved it almost instantly, but owing to a mistake it was not repeated as ordered. The entire surface of the blood drawn yesterday is covered with the inflammatory crust.

Pulse soft, and only moderately full. Complains of great pain in his sides (particularly the right), and back. Every thing he takes causes instantaneous vomiting. Ordered calomel ℈i. sacchar. saturn. gr. viii. pulv. opii gr. iv. to be mixed and made into five pills. One to be given every hour. A strong infusion of senna, with two tablespoonfuls of common salt, is to be given as an injection, and repeated every hour. The cold water to be constantly applied to abdomen.

2 P.M. Only two pills have been given; and he has not vomited since the first was taken. Three injections have been given, and produced copious slimy, green, and black discharges, with a few scybala intermixed. The pain has lost its acute grinding character, and when present is of a dull heavy species. Ordered another pill,

and an injection two or three times during the afternoon, as well as the constant use of the cold water to abdomen.

6 P.M. Has dozed several times during the afternoon; pain as at last report dull and heavy; injections have produced several copious watery evacuations. He says that he feels much more comfortable. Ordered another pill, to be followed in an hour by two teaspoonfuls of Epsom salts, and a similar quantity at expiration of another hour. At 10 P.M. another pill; and early in the morning, if the bowels have not been moved, another dose of salts.

Friday, 8 A.M. Had neither pain nor vomiting last night; bowels not moved; and the salts were given this morning, since which there have been several black and very offensive discharges. He is evidently much exhausted; says he is very well, but weak; pulse weak and slow. Ordered blisters to be applied to both legs, the parts being previously excited by mustard and turpentine. A table spoonful of rich mutton soup to be given every 15 minutes.

11 A.M. He is worse in every respect. There are constant involuntary discharges of black, extremely offensive watery fæces. The arms and thighs to be well rubbed with hot turpentine, and blisters applied afterwards. The abdomen to be covered with flannel steeped in hot turpentine. Rich essence of beef to be given hot every ten minutes in small quantities.

2 P.M. Pulse scarcely perceptible; evidently dying. Small quantities of brandy to be alternated with the beef if he can swallow.

Death at 4 P.M.

About three weeks before I visited Cornelius, I attended another black man, under a violent attack of the same disease, which he had taken in the same manner as the last. Twenty-four hours after he was seized I was sent for, bled him largely twice, and in other respects treated him precisely as I did Cornelius. In a few days he was perfectly free from the disease, and on the eighth day from the commencement of his attack he was out walking.

Dissection.—The abdominal muscles were drawn inwards towards the spine, and the parietes of the abdomen when struck indicated the presence of a smaller quantity of gas than usual in the hollow viscera.

The liver healthy, but of a yellowish tinge, the pori biliarii were occupied with bile, and had their parietes dyed by it. Gall-bladder empty and contracted, containing only a few drops of bile.

The spleen healthy, and about three inches in length.

Pancreas healthy.

The stomach contained a pint of gas. Its mucous coat was covered with a layer of viscid mucus, coloured yellow by bile. On removing this lamina, but little vascular injection was seen; a patch, an inch in diameter, of small ecchymosed spots, was seen near the lesser curvature; there were here and there at distant intervals, other small dots of blood, but the general complexion of the mucous coat was of a dingy or yellowish white, like old ivory. The mucous coat was generally so soft that it could be torn off by scraping with the thumb nail, and then came off in a pulpy state instead of in strips; but in the left extremity it was so soft as to suffer abrasion from much slighter causes than scratching with the nail. The duodenum and jejunum were internally of a yellow colour from the stain of their contents, which were bile and mucus mixed. The ileum was occupied by a small quantity of green purulent matter formed probably of the same substances, the colour of the bile having been altered perhaps by some acid fermentation or secretion there. The contents of the colon, which were merely enough to smear its surface, were the same as those of the jejunum.

The great intestine was collapsed, and in the highest possible state of irritation on its internal coat, which was studded with small tumours of a deep purple, or the colour of coagulated venous blood, from the quantity of blood deposited in the substance of this coat. This appearance was produced at the base of each of the rugæ or small folds of the latter, as if there had been a deposite of serum in the cellular coat which thickened it, and caused the folds to project in the form of pendulous tumours into the cavity of the gut. These tumours being blackened on the surface by the quantity of blood deposited as aforesaid in the substance of the mucous coat, gave to the gut the appearance of beginning mortification, as in the highest forms of dysentery. This condition of purple tumours prevailed universally at the caput coli, forming the entire surface there, and for some inches upwards; it then decreased gradually in the transverse colon and vanished in the sigmoid flexure.

The muciparous glands of the colon studded its whole surface where this violent hemorrhagic irritation prevailed; they were for the most part distant only two or three lines or less from one another, and projected into the cavity of the gut. Their size was for the most part about half a line, as it is in cholera infantum. I did not perceive any ulceration in them, the disease being perhaps in too early a stage for that. They were also conspicuous in the inferior six inches of the ileum. The peritoneal surface of all the abdominal viscera had a yellow tinge from the bile. The kidneys and bladder were healthy.

The semilunar ganglion of the sympathetic was white, firm, and healthy. The viscera of the thorax were healthy, excepting some slight old pleuritic adhesions.

ARTICLE IV.—*A Protean Case, commencing with Ophthalmia, followed by Laryngitis, Gout in the Stomach, Gastro-Peritonitis and Dyspepsia. By* EDWARD JENNER COXE, M.D. *one of the Physicians to the Pennsylvania Institution for the Deaf and Dumb.*

Mrs W. the subject of the following case, is in the prime of life, and excepting occasional violent attacks of croup, to which she has long been subject, and which always require the free use of the lancet, she may be said to enjoy good health.

About two months preceding the present disease, she was seized very suddenly with one of the most violent attacks of croup ever experienced by her, for the relief of which upwards of sixty ounces of blood were abstracted in two bleedings, with fourteen hours interval. The hive syrup, given in large and frequently repeated doses, caused profuse vomiting with the most decidedly good effect, which I am convinced is always the case in croup, when that medicine is properly prepared.

As this attack occurred in winter, and the weather proved unfavourable, my patient did not leave the house until three days preceding her present illness, when it was thought she might venture out without any danger; but, notwithstanding all her precautions, she was sensible in the evening of the same day of having taken cold, which, however, by preventive measures, did not terminate in croup, as had generally been the case previously. The following day her eyes became affected with a constant burning sensation, much increased by exposure to the light, and attended by a slight watering.

The small vessels of the sclerotica were but little altered from their natural appearance. An infusion of the pith of sassafras as a wash, a dose of salts and magnesia, and a spare diet were ordered. The eyes continued in this state with little or no variation for three days, at which time she observed an unpleasant dryness in her throat, unattended by a disposition to cough, and requiring the constant swallowing of a small quantity of some liquid.

She was advised to take some mild remedy and go to bed early; but at midnight she was suddenly seized with a violent increase of the affection of the larynx, respiration was so laboured that she said she should suffocate if not speedily relieved. The loss of twenty-five ounces of blood, a pediluvium as hot as it could be borne, with some mustard added to it, the constant inhalation of the vapour of boiling water, and the application of spirit. terebinthinæ to the throat, afforded very considerable relief. On examination the throat was seen to be greatly inflamed. At the expiration of an hour a scruple of calomel was given, and she was ordered to be kept warm in bed, and to have hot bricks applied to the soles of her feet, with a view of exciting perspiration, which function is rarely if ever produced, even in hot weather, in this lady.

Early on the following day a strong infusion of senna was given, and operated powerfully; the respiration was almost natural, the dryness of the throat had nearly disappeared, and the inflammation was considerably diminished. The blood drawn last night gave decisive evidence of inflammation.

Notwithstanding the favourable appearance of all the symptoms during the day, they suddenly increased about 8 P.M. to a very alarming degree, and as such had been the case in all her attacks of croup, and was dreaded in this, Dr Dewees had been called in consultation: it was determined in case of an accession of the symptoms, that leeches should be freely applied; seventy-five or eighty were consequently put on, and drew extremely well, with a sensible alleviation of the unpleasant symptoms in the throat; these together with the application of spirit. terebinthinæ to the calves of the legs, the inhalation of the vapour of boiling water and vinegar, and hot bricks to the soles of the feet, succeeded in arresting the violence of the disease. As the affection of the eyes still continued, though not so violently as at first, about thirty leeches were applied at the time the throat was getting leeched, and from this time they improved rapidly. At 10 P.M. sixteen grains of calomel and one of ipecacuanha were given, followed by considerable nausea for several hours without any tendency to diaphoresis. Our patient passed a very uncomfortable night, and the inflammation of the larynx is evidently worse this morning. Various remedies were resorted to during the day, but the difficulty of breathing and constant thirst had so much increased that eighty leeches were applied to the throat at 4 P.M. with but temporary advantage, and by 10 P.M. all the symptoms being aggravated, a blister was applied to the throat, which, drawing very well, was followed the next day by a decided improvement of the worst symptoms. That extremely unpleasant sensation of constant thirst still continuing, small pieces of ice were every ten minutes allowed to dissolve in the mouth, to the very great relief of our patient, and at noon she was decidedly better. At 3 P.M. I was summoned in a great hurry, as all the symptoms had very suddenly and rapidly increased; her breathing was very laborious, and she said her throat felt as dry as a chip. Sixteen ounces of blood were immediately abstracted, and great relief was experienced even while the blood was flowing. At 11 P.M. she continued better, her bowels had been several times freely opened, the inflammation of the throat less, while the dryness and difficulty, or rather impossibility of swallowing more than a few drops of any liquid still continued. The small pieces of ice dissolved in the mouth and allowed to trickle down the throat, alone afforded relief, and were constantly used night and day. Thirty drops of black drop in a little mucilage, were given as an enema at 12 o'clock, with a view of producing sleep, which had not been enjoyed for several nights.

At 2 A.M. or three hours after I had left her, I was desired to visit her as quickly as possible, as she was said to be dying. In less than five minutes I was with her, and found her suffering the most intense pain from a very violent attack of gout in the stomach; and it is worthy of remark, that she had never before experienced an attack of that disease in any shape whatever. The injection had been given and she appeared to have been composed by it, but in an hour she complained of a very severe pain in her stomach, and supposing it to be only an attack of colic, she had taken hot ginger tea, clove tea, and brandy and water, without experiencing any relief. Her pulse was soft and small. The black drop, both by mouth and as an enema, hot teas of cloves and ginger, and brandy and water, mustard poultices to the feet and abdomen, hot bricks to the inner parts of the thighs and arms, as well as several doses of supercarbonate of soda, were all in constant use for an hour and a half, before Dr DEWEES (whom I had requested to be summoned) and myself had the pleasure to find the disease abate; and a little after 4 A.M. she felt quite easy. During the violence of this attack the pulse was several times scarcely perceptible; and what had never occurred to her before, her whole body was in a state of profuse sweating, which continued several hours, her clothes during that time being literally wet through. It may not be unworthy of remark, that the pain in the stomach evinced but little disposition to subside until this profuse sweating commenced; and as it then disappeared in a short time, we may justly consider it as the crisis of the disease. Another important circumstance observed by the patient was, that as soon as the stomach became affected, every symptom of laryngitis disappeared, the respiration became perfectly natural and easy; thirst gone; she could drink any quantity without feeling the least unpleasant sensation in her throat. At 7 the next morning I left her sound asleep, but in consequence of unpleasant dreams it did not prove refreshing. With the exception of three or four slight returns of pain in the stomach, and two pretty sharp pains in the foot, the next day was passed more comfortably than had been anticipated. Barley water or gum arabic water were alone allowed.

Once more we felt disposed to congratulate ourselves and the patient upon the reasonable prospect of recovery, but we were yet to be disappointed; for about 8 P.M. of the day subsequent to the attack of gout, evident symptoms of gastritis, complicated with peritonitis, made their appearance, and so violent and obstinate did this superadded disease prove for several days, that we were fearful death would eventually rob us of our fair patient, as well as cheat medicine of its due. From eighty to eighty-five leeches were immediately applied to the abdomen, and so unconquerable was the affection, that for four successive nights we were obliged to have the same number applied each time, (in all about three hundred and forty), before the violence of the symptoms abated sufficiently to allow us a reasonable hope of her recovery. The pain was so acute that the weight of a single sheet increased it, and this continued with but little intermission until after the fourth leeching; and at the same time her pulse, which had been irritable, moderately full, very active and tense, became soft, of sufficient volume, with a tendency now and then to become tense, which however did not continue long.

That troublesome attendant, constant thirst, which reappeared shortly after the last disease set in, continued during its existence, and could only be relieved by resorting to the ice as before mentioned. The bowels not having been moved for several days, a table spoonful of castor oil was mixed with the yolk of an egg, some cinnamon water and sugar, and small doses given every two hours until it should operate. This mixture agreed very well and produced several evacuations with considerable relief from an unpleasant feeling in the bowels. From the commencement of this last disease, and indeed from the first appearance of the laryngitis, our patient had taken nothing but barley water, ice water, and slippery elm tea, and but small quantities of those at a time. For two days our patient continued improving; and on the third day wishing to have her bowels opened, we gave her small doses of the oil mixture; but instead of operating, it occasioned two very violent attacks of flatulent colic, and so great and rapid was the secretion of gas, that several times she was near suffocating from the extreme difficulty of bringing it up. Violent and continued frictions on the spine, tolerably severe blows on the back, pressure on the sternum at its lower part, warm molasses and water, and several enemas, finally succeeded in relieving her, after an hour's suffering each time. Two days after these attacks of colic she experienced another still more violent and of longer duration, caused by taking fifteen grains of rhubarb in pills of three grains every hour, which did not operate. Frictions as before, an assafœtida enema, and copious vomiting from having drank three tumblerfuls of hot molasses and water, relieved her, after very great suffering for nearly two hours, during which time large quantities of gas were continually brought up with extreme difficulty. Epsom salts and magnesia, in small doses, were given at the end of two days, and operated quickly, freely, and without the least disposition to colic. Some almond milk, prepared by bruising blanched almonds in hot water, was now given in small quantities at a time. A little oyster soup, three or four times a day, was next given and considered a great luxury; a small quantity of ice cream several times a day agreed remarkably well. Next in order came the soft parts of two oysters; and from this time convalescence was perfectly established. From the repeated attacks of the stomach, that organ has become much debilitated, constituting a well marked case of dyspepsia, which still continues to harass our patient.

It sometimes happens that blisters produce an unusual degree of irritation, which continues a long time, and such was the case to a surprising degree in this instance after the application of the blister to the throat. The blistered surface looked almost like a piece of raw beef, and in spite of every application that could be thought of, it continued to burn for one week with unabated severity, when it was determined to apply a small quantity of morphia intimately mixed with powdered gum arabic, and very great was the relief in a short time. Our patient enjoyed a good night's rest, to which she had been a stranger for some time.

One inconvenience resulted from powdered gum arabic having been combined with the morphia, and although it may not be considered a matter of much importance, I would recommend the use of any other fine powder in its place. The discharge from the surface mixing with the gum formed a slight crust as if some varnish had been rubbed on the part, occasioning an unpleasant sticky sensation.

ARTICLE V.—*Account of the Treatment of Gangrenous Sore Throat, principally by Gargles of Infusion of Red Pepper. In a Letter to one of the Editors. By* ALBAN G. SMITH, M.D. *of Danville, Kentucky.*

I recently took up your last Journal, in which I saw a paper by Dr BEESLEY on what he calls gangrene of the throat, but what I call putrid sore throat; and as he, very properly, has given the result of his experience in his own cases, I have concluded that it would be wrong for me to withhold the result of my experience in some hundreds. My first case occurred in the son of a Mr G. near this place, a boy about five years of age. His mother sent for me and told me that he complained of difficulty of deglutition, and a pain in the ear. Upon examining the tonsils, I found a white ulcer on each, about the size of a 12½ cent piece. I treated the case with calomel and rhubarb as a cathartic, and finding considerable difficulty in opening the bowels, at the suggestion of the mother I used a solution of salt of tartar, which had a very happy effect. In a day or two the ulcers turned to an ash colour. I used the red pepper, salt, and vinegar, as directed in Thomas's Practice, but used it merely as a gargle, injecting it into the fauces with a small syringe. This practice being continued a few days, the sloughs fell off, and he got well.

The next case was my own son, and about the same age. His mother observed that he had high fever at night; I told her to give him a dose of calomel, and being very busily engaged in practice, I heard nothing more of it for two or three days, when his mother told me that he had passed a very restless night, his fever being very high, and had said that his ear hurt him. Upon examining him, I discovered that his breath was offensive, having the mercurial smell, and I concluded that he was salivated by the dose of calomel I had given; but in course of the day I discovered some anxiety of countenance and difficulty of breathing, and upon examining the tonsils, I found large green ulcers on them. I then gave him an emetic of Coxe's hive syrup. After he had vomited two or three times, I discovered a change; his countenance lost that anxious appearance, his pulse became more frequent, and a general prostration ensued; the ulcers became darker coloured, and a sore that he had on his hand assumed the same colour. Notwithstanding I used a great variety of tonics and gargles, the case proved fatal in a few days. It was with great difficulty that I could give any remedy a fair trial, for it was almost impossible to get him to take any thing: I had to force his mouth open with a knife-handle every time I gave any thing, to the serious injury of his teeth, so determined was he to take nothing.

I was in a few days called to several cases. Two were in one family. One, a white child of light complexion and very fat, died in twelve hours after the disease was first discovered. I concluded I would give the red pepper tea, salt, and vinegar a fair trial; I accordingly directed it to be made very strong, and a table spoonful given every hour, the dose to be augmented if the child did not swallow the whole of it, and, where the case was very bad, to be given every half hour. At the same time I directed a dose of calomel, and kept the bowels open afterwards with rhubarb and salt of tartar. After this I scarcely lost a case. Sometimes, where I was afraid of the purgative effects of calomel, I used a spirituous solution of corrosive sublimate, as an alterative; and although I have been frequently prevailed on to use other remedies, I have never found any that I could rely upon but the red pepper, &c. and the calomel, rhubarb, and salt of tartar.

While I was attending to a case of fever, some time since, a young gentleman in the house informed me that in the night he was taken with a fever and a kind of dryness in his throat. Upon examination I found in the upper part of the pharynx a large black ulcer. I directed him to take a small wine-glassful of the infusion of red pepper, &c. every half hour, with a dose of salts; and in eight hours, when I returned, I examined the ulcer; it had lost its slough, and looked red; and it got well in a few days. I have seen a great many cases where, after the sloughs began to come off, they would be coughed up in bits as large as a man's thumb, and in some cases it would be six months before the child could articulate distinctly. I have been called in consultation several times, and every case that was blistered before I saw it terminated fatally, the blister turning black with the ulcers. In many of the cases that I have seen, there has been some pustule containing matter, sometimes on the under lip or chin, sometimes on the hands; and one can tell the colour of the ulcer, by the colour of that, as well as by examining the throat. In children that are very fat, of light or sandy complexion, the disease runs its course very rapidly, and is more apt to be fatal. I have seen many cases lost by parents and physicians supposing it to be croup, and using emetics too long. I have seen many cases where the child would run about and not appear to a common observer to be ill until a few minutes before death. It generally goes through the family of children. I think that in white children it is more fatal than among black. Since my son died, which has been seven years, my children have been remarkably subject to it; my wife says we have had upwards of twenty cases, some of them very bad, in our own family.

I generally direct ten or twelve pods of red pepper to be cut and put into a pint cup, and enough hot water poured on them to fill the cup half full; let it stand a few minutes, then add a table-spoon heaped full of salt, and fill up the cup with strong vinegar. There are sometimes cases where the throat is much swelled on the outside; in those cases I found it best to repeat the calomel more frequently; and I have frequently given emetics of blue vitriol with advantage. I prefer calomel in small doses; for every case that I have met with, where purgatives or emetics have been used extensively, has proved fatal. Since the first season that this disease prevailed in this country, it has been quite common every year, but was scarcely known before.

ARTICLE VI.—*Remarks on the Pathology and Treatment of Intermittent Fever.* By JOHN BELL, M.D.

The influence of hypothesis in the treatment of intermittent fever, has been of long duration and unequivocal injury. Reformation can only be brought about by our consenting to remove this disease from the list of exceptions, and to subject it to the same rules of analysis which are deemed valid in other maladies. For this purpose we must cease to regard it as originating from a specific cause and cured by a specific remedy. The product of atmospherical vicissitudes and distemperatures of seasons, intermittent fever will be found akin to all the varieties of gastro-intestinal inflammation, as well as to hepatitis, splenitis, rheumatism, catarrh, chronic pleurisy, pneumonia and bronchitis, peritonitis and its attendant ascites, by some one or many of which it is often sustained. Its type is that often assumed by all the phlegmasiæ and hemorrhagies, and the innumerable tribe of maladies called nervous, having their origin in a lesion of some part of the cerebro-spinal axis. There is scarcely a disease in the nosological catalogue which has not at times preserved a distinctly periodical character; its invasion being marked by a chill, and the subsequent fever terminating in sweat. I have seen fatal inflammation of the liver and gangrene of the lungs exhibit four distinct tertian paroxysms; and the instances of periodical fever originating in and kept up by irritation of the stomach and even bladder, are of common occurrence, and familiar observation. It is not necessary for me to repeat the opinions which I advanced on former occasions respecting the erroneous views of the origin of periodical fevers*, and of the unfortunate therapeutical treatment based on them. My purpose will be answered by thus briefly reminding the reader of the periodicity of inflammatory, hemorrhagic, and nervous diseases, and that, consequently, no single remedy nor uniform course of treatment ought to be recommended for the mere type, without reference to the nature of the functional disturbance and the extent of organic lesion. Clear and obvious as this principle may seem to us, the practice has been too generally at direct variance with it. An individual must often be content to suffer from oppressive headach, or pain and heat of the stomach, or of one or both hypochondriac regions, or dysenteric gripings, thirst, dry pain and general uneasiness; if with these states be associated periodical paroxysms, called intermittent fever. Supposing the stomach and bowels to be, as a scavenger would say of the streets, well emptied and cleansed, bark in its several forms is poured in, with the accompanying assurance on the part of the attending physician, that this will cure all his complaints, by preventing the return of the chill. Not unfrequently, however, the promise proves to be fallacious: the symptoms are unmitigated in violence, and the chills are then declared to be very difficult to remove. What is the reasoning of the phyician in this emergency? He meditates on all the tonic remedies which are alleged to have the power of curing intermittent fever: he selects arsenic from the list, and administers it to his patient. Persevered in for some time, this poison breaks up the periodical character of the disease; there is no longer a recurrence of chills, and the invalid is congratulated on his escape from disease. But health is slow in its approaches; he digests badly, has pain in his stomach with occasional nausea and disturbed bowels; or in a more favourable state he complains of dull, fixed headach, pain in the side and right shoulder, thirst, and scanty urine. In place of these there will be occasionally a tumid abdomen, œdematous extremities, cold skin, and sluggish pulse. Reference being had to the want of appetite and bad digestion, some of the milder tonics are administered; or, the disorders persisting, visceral obstruction is suspected, and an alterative course of mercury is prescribed. The first palliate, perchance, some uneasy sensations for a while; but fail to prevent, if they do not aggravate the confirmed dyspepsia, now entailed on the unhappy invalid. The second, after being carried to the extent of producing salivation, seems to remove or suspend the enlargement of the liver or spleen, and carry off the effused serum in the cellular tissue; but in a few days after, especially if he be exposed to an easterly wind or night air, the chill returns, and the patient is doomed to the same round of tonics and alteratives as before, with a still stronger conviction in the mind of his physician that the long duration of the disease renders it more than ever indispensably necessary to husband his strength by nourishing diet, porter, wine, &c. Winter now approaches, and a troublesome cough with pleuritic stitches is superadded to gastric or hepatic derangement, or both.

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* See the papers on Periodicity and Miasm, in Dr CHAPMAN's Medical and Physical Journal, and in the North American Medical and Surgical Journal.

In drawing this picture of the progress of intermittent fever, its complications, effects and treatment, I am not conscious of exaggeration or misrepresentation. The dominant idea in the mind of the physician, for one in his case will represent a large class, is debility, and the necessity of tonics exclusively for its cure. How powerful the force of associations! The same state of the circulation and digestive passages; the pain in the head, side or chest, which, in other circumstances, would be met by the remedies for inflammation, are here, in consequence of their connexion with periodical fever, regarded as mere accidents, and adventitious and secondary symptoms, which we must not attempt to remove by sanguineous depletion, for fear of enfeebling the patient. But this fear would be just as well founded in periodical hemorrhages, epilepsy, gout, and rheumatism.

In intermittent fever, as in all the diseases of autumn, the stomach is much disturbed in its functions, especially just before and during the paroxysm. Nausea, vomiting, thirst, and heat of the epigastrium are common symptoms on the subsidence of the cold and coming on of the hot stage, and are often rendered more violent by the stimulating draughts taken during the period of the chill. Here begins the deviation from the principles which govern us on the attack of other diseases. In this latter case we are wary in prescribing any stimulant or irritant beyond external warmth or a simple warm diluent, however great may be the rigor, well knowing that the subsequent reaction will only receive additional aliment from our efforts to rouse the patient from the state of depression in which he is thrown during the first invasion of the disease. Whereas in the chill of an intermittent fever, the popular practice, too readily countenanced by the profession, is to swallow all kinds of heating drinks, alcoholic, cordial, and vinous. The hot stage having now come on, aggravated by these imprudences, we are counselled to use various mixtures with the intention of quieting the irritation of the stomach and bringing on diaphoresis. Laudanum, the alkalies, and carminatives, constitute the basis of most of these prescriptions. All of them are more or less stimulating, and in no one of them can we repose confidence in gastric irritation, or gastritis; for such in fact, pending the paroxysm, is the true state of the stomach. Experience, corroborating the inductions of theory, daily teaches us that the fewer drugs, and the simpler, cooler and blander the drinks, the more shall we have it in our power to control vomiting and pain, heat and distress of the stomach, and associated disturbance of the head. These failing, bleeding from the arm, cold affusion, and, in more obstinate cases, leeching and cupping are found to be the most efficient means of quieting an irritable stomach. The reaction in the hot stage consists not only of increased gastric sensibility, but of accelerated circulation and excessive capillary and nervous excitement. The pulse is frequent, full and vibrating, and all the symptoms evince a general disturbance of the organs of assimilation and secretion, including the stomach, liver, kidneys, lungs and skin. Of this the vomiting at the beginning, and the sweat and urinary deposit at the termination of the hot fit afford abundant evidence.

The call for moderating excessive excitement is not less imperative here than in other maladies, distinguished by similar symptoms, however variously named. We are well aware of the general principle on these occasions, that the risk of subsequent languor and engorgement, or even disorganization of the organs and disturbance of functions, is greater if the excitement be allowed to wear itself out by our abstaining from those means calculated to moderate it.

In the case before us, we have superadded to gastric irritation of the stomach, a morbidly exalted action of the other great viscera. Of course, in addition to the indications furnished by the former, we have those supplied by the latter, to direct us to the use of the lancet and the application of cold. In fact the treatment here is identical with that in every febrile paroxysm of any intensity, whether it be of regular or spurious or malignant intermittent, or remittent, yellow, or bilious. It is true that a temporary crisis will generally take place in regular intermittents without any interference on the part of the physician; but every paroxysm, especially if neglected or mismanaged, predisposes the subject of it to complications and aggravations, at each successive return; and the stomach, liver and head, from being periodically affected, are after a while permanent sufferers.

Bleeding in the hot stage of intermittent fever, thus pointed out by inductive reasoning, has been proved by experience to be on many occasions decidedly beneficial. It is now many years since, whilst yet a student in Virginia, it became my duty to see and occasionally prescribe for a young man of a thin spare habit of body, who had been much reduced by repeated attacks of intermittent fever. Bark and arsenic had been administered in vain. Influenced by the recommendation of SENAC, whose work on Intermitting and Remitting Fevers I had just perused, I opened a vein in the arm of my patient during the next hot fit, and took away a pint of blood. The relief was immediate; the force of the paroxysm soon subsided; the apyrexia was complete; and a few doses of bark were sufficient to prevent the next fit. He speedily recovered his health and strength, and remained clear of intermittent fever. From that time to the present I have not hesitated to use the lancet in every case of periodical fever, in which either the apyrexia was not so complete as to leave the patient entirely clear of all gastric and cerebral distress, or in which the paroxysms had been of frequent recurrence and untractable under the use of the bark. I have usually preferred, when the choice was in my power, bleeding during the hot stage to doing it in the apyrexia; but the experience of every additional season convinces me that in this latter state also, the employment of the lancet will realize all our best hopes.

Both as adjuvant to and substitute for the lancet in the hot stage, cold affusion or immersion is entitled to special notice and favour. The tranquillizing and pleasurable effects of cold water to a patient, in the burning heat of fever, must be actually experienced by an individual before he can properly appreciate them. The chief obstacle to the use of this remedy, now that the prejudices of ignorance are in a great measure dissipated, consists in the want of suitable conveniences for bathing among the larger portion of those who suffer from intermittent fever. Seldom, however, shall we be unable to procure a large tub for the patient to stand or crouch in, and one or two buckets, the contents of which are to be poured on him. Sponging the surface of the body may be had recourse to for the purpose of allaying the morbid heat in the hot stage; but it is an indifferent substitute for immersion or affusion, unless in particular cases and circumstances of age, sex and states of mind, of which we can readily conceive.

Coinciding with the effects of cold water, externally applied, will be those from its internal use. In lieu of water in its simple state, we may give it slightly acidulated with lemon juice, or cream of tartar; or, if the stomach be much distressed, gum arabic will be a useful addition.

Having by these means brought our patient through the cold and hot stages, the sweating will seldom be excessive or enfeebling, and the succeeding period will more probably be, not in name, but in fact, that of apyrexia. Should it prove such, that is, should the tongue be moist and but little loaded, and the skin soft, we can then, with every prospect of entire success, give the bark or its salts in full doses at short intervals, until in the revolution of time the epoch arrives, at which the next paroxysm would probably have come on.

It will be seen that I am not so exclusive as to recommend bloodletting and cold as remedies, which, if used during the hot stage, are of themselves capable of curing intermittent fever. But thus much I can aver, that the febrile exacerbation will be briefer in duration and diminished in violence, the succeeding interval freer from all unpleasant sensations, and the return of the paroxysm postponed, and when it does come rendered less violent, after the use of the lancet.

If the period following the paroxysm be not one of complete apyrexia, and there remains some heat and tenderness in the epigastric region, with a furred tongue and red at the borders, we shall for the most part only increase the general discomfort of the patient by administering bark and other tonics, wine and rich food; even though, by this treatment, we prevent the coming on of the next paroxysm. The case is to be treated in all points as we would treat gastric irritation under other circumstances, viz. by simple drinks, and very light bland nutriment and moderate exercise, with pediluvium or the warm bath.

I do not speak of the state of the pulse during the apyrexia, because I consider the indications which it furnishes as very fallacious. It is most common to find it exhibiting under the finger a certain degree of activity, compounded of fulness with vibration, in the progress of intermittent fever: but this resistance furnishes hardly any reason for depletion, if the stomach be sound, tongue moist, and skin soft; nor would its smallness and feebleness be an argument for prescribing the bark, or abstaining from general or local depletion, or both, if the stomach were much distressed, the head pained, the hypochondria tender and tumid.

I hold it as a fair inference from pathological phenomena, justified by large experience, that, in this last mentioned condition of things, bloodletting, in the interval of intermittent fever, is as safe and efficacious as in any other form of disease whatever. It removes phlogosis of the mucous membranes of the digestive and pulmonary apparatus, so often combined in the subjects of intermittent fever, at the beginning of winter and spring; as well as prevents engorgement of the liver and spleen, and aids in removing it if once formed. The prevention of the paroxysm becomes, after the use of the lancet, a most simple affair. Pounds of bark or drachms of quinine have been given in vain to cure an intermittent fever, which has in a short time completely yielded to a few doses of these medicines when their administration was preceded by a single bleeding. Of this fact, I have had numerous examples: and so much were the patients themselves surprised at the prompt relief afforded, that, overlooking the bleeding, they imagined the quinine pills which they had taken afterwards to be a new medicine, possessed of uncommon and peculiar powers. What is said of general bleeding will apply in many cases to topical depletion, by means of leeching or cupping. The predominance of gastric symptoms would point out the propriety of applying leeches over the epigastrium; the complication of pulmonary ones would indicate the use of cups to the chest. Whether bleeding from the arm shall precede these operations must depend on the intensity of the visceral disease and the circumstances of the constitution, and general habit of body of the patient. The former will of itself most generally meet our expectations, if a regulated and reduced diet be persevered in, so that the stomach, ceasing to be offended, may recover from its state of irritation.

By an adoption of this plan, if we do not entirely remove the periodical paroxysms, we at least reduce them to their simplest element, or that of nervous irritation. Nutrition even may now go on, and the individual's health not be materially deteriorated. But, as before remarked, we need not subject him to the experiment. Bark or some kindred tonic will now readily suffice to accomplish a perfect cure. Very different is the result, when, without regard to the capillary system and the membranes which it mainly composes, we are satisfied to destroy the periodicity, and nurse ourselves with the illusion that we have removed the disease, because we have suspended the return of pure nervous irritation.

Of other remedies during the interval of intermittent fever, I deem it needless to say much, because every year diminishes for me the number, by my discovering the greater success attending a few than many. Were I required to speak of any one medicine, laying claim to pharmaceutical activity, which I have used with most advantage in a period often necessarily intervening between the use of the lancet and the employment of the salts of quinine or the bark, I should unhesitatingly instance the blue pill. Not unfrequently, when the disease prevailed so extensively in the city and its vicinity a few years ago, I gave a five grain pill of the blue mass at night and the cinchonic preparations during the following morning, with the effect of promptly arresting quotidian fevers, which had not yielded to the bark alone. The practice is equally applicable to tertian fever. I must add, however, that when this course was followed, I had not recourse to the lancet with the same freedom as subsequently. Bloodletting simplifies the practice so much, that we are enabled in the majority of cases to dispense with any intermediate medication between it and the use of the bark. I have indeed prevented a return of the paroxysm by giving five grain doses of the blue mass three times a day, after bleeding; but although this will in some instances be entirely successful, I am far from recommending it as a general rule of practice.

With still greater hesitation would I encourage a perseverance in the use of the mercury until salivation had been produced. I have seen the fits suspended by the mercurial disease, but I have never known a patient to escape from a speedy relapse, if the cinchonic preparations had been withheld. Twice in my own case, when suffering from the disease in China in the year 1818, I arrested the disease by slightly touching the gums, but a relapse soon followed on the very first exposure to the night air in one case, and to an easterly wind in the other. Removal to the sea shore at Macao and a few doses of bark very promptly restored me to comparative health, and allowed me at the proper season to discharge my duty as the medical attendant on the American shipping then lying below Canton.

In illustration of the modifying influence of climate on the progress of disease and the effect of remedies, it is but right for me to state that during the months of September and October, when there were most sailors in that port, and when the intermittent fever was rife, I was not baffled in a single instance in my attempts to cure, by a very simple treatment, those subjected to this disease. Sometimes evacuations were premised; at other times the ceremony was waved. The chief reliance was on the bark in drachm doses, administered at intervals of every two hours, beginning at the expiration of one paroxysm, and continuing the medicine until about an hour before the epoch at which the next would have come on, if no curative measures had been adopted. Rarely did a patient suffer from the third paroxysm of a quotidian, or the second of a tertian; nor was he long in being restored to ship duty.

It is not easy for me to pronounce to what extent these men would have suffered from relapses had they remained in Canton during the winter, or what was the state of their health in the following spring at home; but I have reason to believe that relapses with them were not unfrequent. Be this as it may, I have not found the above simple practice answer in our own country, in which, from the excesses and vicissitudes of climate, visceral inflammation and engorgement are so common; while the same relief is not afforded as in tropical regions by copious cutaneous transpiration.

Occasionally we hear of practitioners relying exclusively on the use of the cold bath for the cure of intermittents. A knowledge of the directly sedative effects of cold, and observation of its power of reducing febrile action to the normal healthy standard, as in the hot stage of intermittent fever, will make us slow to direct it during the interval, when there is often little or no superfluous excitement, and the predisposition to chill is manifestly great. It is hardly wise to irritate a paroxysm of fever by subjecting an individual, whose nervous system is rather enfeebled than excited, to a cold bath. He is necessarily chilled; has some rigors; and in the most favourable state a subsequent glow and reaction. Nor does the disturbance end here: pains in the limbs and head, and languor are often complained of by those who use the cold bath, when the system is not above the natural level of excitement. From these premises, not a little strengthened by experience, I should feel inclined to regard habitual cold bathing in the interval as a hazardous remedy, and rendered often mischievous by the prevalent errors regarding its modus operandi. Very different are its effects when used in the hot stage of intermittent, or in the more permanent capillary excitement of gastro-cerebral fever, usually denominated typhus. The morbid excitement of the sanguineo-nervous structures, entering into the composition of the membranes, and chiefly instrumental in the secretions, including that of caloric, is abated and often entirely removed; the patient is rendered tranquil, and enjoys a pleasant slumber unbroken by the former irritations of heat and thirst. Just in proportion as the state of the patient during the interval approaches to that exhibited in the hot stage will cold bathing be useful, but not otherwise. Hence, if there be a steady dry heat of the skin, frequent pulse with thirst, and little or no appetite, we shall derive good effects from cold affusion in the period between the paroxysms. This remedy is not, therefore, as often taught, akin to bark; the two stand opposed to each other in their effects, and their use is only properly called for under different and opposite circumstances; the one to allay morbid irritation and inflammation; the other to exalt and strengthen parts already feeble.

A review of the effects of arsenic in intermittent fever, that is on those labouring under the disease who have taken it, would, on calm and dispassionate reflection, induce us to wish that its use had never been proposed. The amount of mischief which it has produced must have been excessively great, and exceeding the good which it has been alleged to do, in the same proportion in which cases, where it has been given in ignorance of its operation and the state of the system, have exceeded those where it was administered with all the reservations and restrictions which could be suggested by cautious observation. We are told that it has cured when the bark has failed: but I think it has been sufficiently shown that if the bark fails we have other duties to perform towards our patient than hunting out fresh tonics. When thus unsuccessful, we shall find the stomach irritated and perhaps inclined to phlogosis, or there is a chronic hepatitis and a tendency to dropsical effusions. Now, most assuredly, arsenic, even if it arrest the chill, is not the appropriate remedy in these circumstances. If we persist in giving it we do so at the peril of our patients, to whom we stand fearfully responsible for the chronic gastritis thus entailed on them. Three of the most obstinate cases of disease which were presented to my notice during last year, were of persons who had used FOWLER's solution for the cure of intermittent fever. One was a young man from the country, who had been cured of the chills by this medicine, but who suffered greatly when I saw him from pain and heat of the stomach, which had supervened since he began using the solution. Two bleedings and reduced diet made him more comfortable; but I was not permitted to see him entirely recovered in consequence of his return to the country. The second was of a young female, who, when I saw her, was greatly distressed by irritability of the stomach, with fixed pain and frequent vomiting; her pulse was hard and active; the appearance of the complexion and other symptoms induced a belief that she laboured also under hepatic disease. Upwards of two months elapsed before her digestive powers could allow of her using any food at all stimulating. During that period she was frequently bled from the arm and leeched over the epigastrium. The blue pill was administered, and after a while the sulphate of quinine; but both these were soon omitted, as I found the state of her stomach aggravated by their use, and I was content, at last, to rely on depletion, general and local, as above, and occasionally a mild laxative and diluents. Under this treatment she so far recovered as to justify the use once more of the quinine; by which, finally, the disease lost its periodical character, and strength and health followed. The third case, also of a female, was characterized by nearly the same symptoms, but they were of less duration, and were finally removed by several bleedings, and by the use of the quinine.

It would be well for us to bear in mind that there are two modes of poisoning. The one sudden and acute, resorted to in moments of temporary insanity or impious despair, for the purposes of speedy self destruction, or with malice prepense to take away the life of a neighbour; the other is a slower process, practised by empirics, when they persuade the ignorant and credulous to swallow their nostrums, and, shall we add, by regular physicians when they direct, without due deliberation, their patients to use arsenic, corrosive sublimate, and some other half dozen of heroical medicines.

As it is not my intention to write a systematic essay on intermittent fever, I forbear to pass in review the long list of vegetable and mineral substances which have at different times acquired distinction for the cure of the disease. Of their remedial value I am fortunately ignorant, for the reason that I have always found the cinchonic preparations, and of these the simplest kind, answer all my wishes, when had recourse to with the restrictions already pointed out. The facility with which the salts of quinine can be procured obviates all the difficulties which formerly impeded us in the free administration of the bark in substance. Inability to swallow and retain the former can no longer, as in the instance of the latter, furnish us with a pretext for seeking after new remedies.

There will no doubt be found many, to laud, as heretofore, the combination of bark with opium, serpentaria, the alkalies, &c. or with other bitters and astringents. With such I do not mean to cavil: but would simply express my conviction that if the stomach and system generally be not in a suitable state for the reception of the bark, we but deceive ourselves and injure our patients, if we think that any addition to it of kindred preparations, drawn from the class of stimuli and tonics, or even of antacids or acids, will render it safer and more efficacious. So, likewise, if the stomach be in a proper state for the ingestion of any tonic, we are safe in presuming it is so for bark and its salts. And again, though we may admit that a plurality of remedies, usually called tonics, are each of them capable of curing intermittent fever, we ought by fair induction to allow of the possibility of one condition only of the stomach, in which any of them can be advantageously used.

Having assured myself of the propriety of giving the cinchonic preparations, I begin their use immediately after the termination of the paroxysm; at which time the solution of the fever is most complete, the capillary excitement most subdued, and the stomach most in want of moderate nutritive and medicinal stimuli. Repeated *at brief intervals*, *in full doses*, the medicine will be more likely to ward off the expected ensuing paroxysm than if we were to delay its administration until a short time before the epoch of the chill, when the sensibilities of the stomach becoming less, whatever is then taken in lies comparatively inert and unchanged, until the reaction in the hot fit. If, notwithstanding the favourable auspices under which the quinine was administered, the disease still preserves its paroxysmal character, and the stomach and head are distressed, I do not hesitate to suspend the use of the medicine, restrict still more the regimen of the patient, and, irritation continuing, to bleed him either from the arm or topically. After a timely pause of this kind, the quinine may be again directed with a success incomparably greater, on the score of expedition, comfort and freedom from subsequent ailments, than would have followed a substitution of other tonics after its first failure.

By those who regard intermittent fever as purely a succession of febrile paroxysms at stated intervals, which return by the force of habit, various internal and external stimuli have been eulogized for their property of warding off the chill, if taken or applied a short time before the expected return of this latter. Opium and blisters have been recommended in a more especial manner as fitted to answer the view. That they will singly and conjointly often fail we are well aware: but even when they succeed in producing the effects anticipated we are far from having the condition of the patient materially benefited. In preventing a chill they do not on that account remove the internal visceral disturbance by which the system was being gradually brought to this point. Even as revulsives, their operation will be of too equivocal if not perturbating a character to insure our confidence. It may excite surprize to see the epithet perturbating applied to opium; but those who have witnessed its first effects on the brain and nervous system, and secondary ones on the stomach, will readily understand how this medicine becomes so when untimely administered.

The principle which to my mind seems most desirable to be established in the treatment of intermittent fever is, *that in each stage we use the remedies indicated by the group of symptoms at the time, without anticipating future possible evils from present relief on the one hand, or distant good by aggravating actual distress on the other.* By a neglect of this important principle, we often make the physician a timid observer, in place of an efficient actor, when he refuses to relieve the sufferer from cerebral, pulmonary, and hepatic congestion, and disorganizing membranous inflammation by copious depletion, for fear of an illy understood state of debility being afterwards induced. Changing, at another time, his character, he will be seen urging the use of irritating stimuli on a person already tormented by burning heat and thirst, and general capillary excitement in the second stage of remittent gastric fevers, for the purposes, as he alleges, of giving him strength, and enabling him to digest and be nourished.

The advocates of bloodletting in the cold stage of intermittent fevers admit the correctness of the above principle. They contend that the operation is both justified and called for by the condition of the viscera at the time. The question must be determined by similar arguments and facts to those which have been adduced in favour of, or opposition to, direct depletion, in the stage of oppression and chill in other maladies. The physician is very rarely called upon to give advice before this stage or period of invasion is passed and reaction has taken place. He is generally well satisfied indeed if he be allowed to act before this latter has been of long duration, and in being thus favoured, he considers himself as attacking the disease at an early period. Deducing our opinion from what is presented to us in the phenomena of the first stage of concussion of the brain, we should say, that, at the beginning of a febrile attack, marked as it is by chill, rigors, listlessness, languor, disinclination to move and think, the nervous system is alone affected, and in virtue of its debility, the secretions, as well of caloric as of different fluids, are suspended. The sanguiferous system is as yet a stranger to the disease, and only becomes interested in proportion as the returning excitement of the nervous system communicates to it fresh stimulus. If prior to this stimulation being transmitted from the nerves to the heart and capillaries, that is, before the disappearance of the chill and cold stage, we abstract blood, it can only be with the intention of diminishing the amount of this fluid, and thereby easing the vessels when the hot stage, or that of reaction, is arrived. Accordingly, Drs Mackintosh and Ridgway, apparently ignorant of Dr Rush's recommendation many years ago to the same effect, tell us, that by bleeding in the cold stage of intermittent fever, the hot and sweating stages have been prevented.

In two cases in which I adopted this practice, the result was not of such a favourable nature. One was evidently benefited; but neither in this nor the other was I dispensed from the necessity of subsequent bleeding before the disease was arrested.

To these I ought to add a third, which, from its rare occurrence and the formidable nature of the symptoms, merits a more particular notice. It was of a young mulatto man, who had been confined to his bed for three weeks by gastric remittent fever. The paroxysms came on at irregular intervals, and were always marked by a frequent and rather full pulse, acrid heat of the skin, especially over the abdomen, and a burning thirst. Frequent bleedings from the arm and cupping over the abdomen had been practised; purgatives of a saline and mercurial character were occasionally administered, which gave some relief at the moment, but always left the stomach and abdomen more tender to pressure, and the skin hotter to the touch. During nearly the whole time the tongue was loaded in the middle with a whitish yellow coat, while its borders and tip were red and shining. After the expiration of the above time convalescence seemed about to be established; the pulse was nearer a natural standard, thirst less urgent, and temperature of the skin, except over the epigastrium, of an ordinary nature. Pressure on the abdomen rendered the pulsations of the aorta very perceptible. The patient gained very little strength, although he was allowed light animal broth and farinaceous food. Visited in the afternoon of September 17th of last year, I found him in a state of great apathy, with an inclination to dose. The pulse was not materially altered, nor was there any other new symptom. A blister was directed to the back of the neck, and a laxative of rhubarb and magnesia at bedtime. At 11 o'clock P.M. I was sent for in great haste, and on my arrival found the patient in a state of complete coma, utterly insensible to all objects of sight, sound, and touch; his limbs at first extended, remained in whatever position they were placed; the pulse was barely perceptible, and the breathing very slow. It was impossible to make him swallow any thing, or to elicit from him the slightest evidence of consciousness. On applying my hand to the epigastrium, I could feel the abdominal aorta beat with considerable force; so also did the carotids. The contractions of the heart were frequent, and laborious. The blister had been put on, but no medicine taken. Sixty leeches were now applied over the epigastrium, and sinapisms to the extremities. After the leeches had begun to fill, the pulse lost somewhat of its extreme tenuity, and by the time they were dètached, it had regained its natural volume, was soft and easily compressible. The patient at this time began to move his eyes and the muscles of his mouth and face; he turned a little towards one side, yawned and stretched himself. The extremities were still cold and unaffected by the sinapisms. Before all the leeches were removed, the skin became moist in places; and finally a sweat covered the face, trunk, and limbs, with the exception of the hands and feet. Enemata of tepid water were administered at different times through the night. In the morning, though languid, he was partially sitting up in bed, by leaning on his elbow, helping himself to some light nutriment. In the afternoon of this day he experienced some rigors, which disappeared in the evening in moisture on the skin.

On the evening of the following day, 19th, by eight o'clock, he was in nearly the same state as on the 17th, being completely comatose. Cups in large numbers were now applied to the temples, and over the abdomen, so as to detract about ten ounces of blood. The effect was most salutary, and the recovery even more prompt than from the first attack. Enemata of cold water were given on the present occasion.

An examination of the symptoms of the case on the morning of the 20th, as presented by the pulse and skin, seemed to justify the use of the quinine, from which the furred and chapped tongue on the preceding days had deterred me. A minute inspection of this organ now showed me that under this dry and cracked coat it was pale, and rather thicker than natural. This appearance was readily recognizable by looking at the tip and sides of the tongue. A solution of the sulphate of quinine in water, ten grains to the ounce of fluid, was directed. Of this a tea-spoonful was taken every hour until the afternoon. There was then a very slight exacerbation. The medicine was resumed on the following day, and continued for several days. The patient was thenceforward clear of paroxysmal attacks, and gradually and regularly regained his strength and health.

Here was an extreme case, in which the coma, evidently a substitute for the cold stage of intermittent fever, was relieved on both occasions by a free abstraction of blood. The subsequent reaction and distress were very inconsiderable, and did not on either occasion prevent the patient from sleeping quietly during the remainder of the night.

Some of my readers will doubtless be surprised at my silence on the subject of emetics and purges in intermittent fever. They may feel inclined to regret this omission the more, as to them it will seem an evidence of the predominance of French doctrines. Before replying to this supposition, I would recommend to those who are so backward in giving credence to the weight of contemporary authority, a short essay in a small book by CLEGHORN. The chapter on tertian fevers, in his "Observations on the Epidemical Diseases of Minorca, from the year 1744 to 1749," to which I allude, is the production of a patient and experienced observer. Of nearly a hundred persons who perished in malignant tertians, and who were examined by him after death, the contents of the abdomen were in all greatly affected with congestion and inflammation. It was natural then for him, when called in the beginning of tertian fevers, to take away some blood from people of all ages, unless there was a strong contra-indication; and farther, if a violent headach, and obstinate delirium, and great heat or pains of the bowels were urgent, within a day or two he repeated the bleeding, "*by which seasonable evacuation the vehemency of the paroxysms is somewhat diminished; the apyrexias become more complete; the operation of emetics and cathartics is rendered safer and more successful; and the terrible symptoms which often make their appearance about the height of the distemper, such as raving sopor, difficulty of breathing, inflammations of the abdominal viscera, &c. are either prevented or mitigated.*" The author adds some cautions in the use of the lancet, if the disease had continued some time, and the patient was very feeble; or if the paroxysms of the disease were attended with profuse evacuations, whether by vomiting, purging, sweating, or a hemorrhage from the nose. In all such cases, however, I have bled with advantage, after I had convinced myself that there was protracted irritation or engorgement of any of the viscera. **Cleghorn** tells us that he commonly opened a vein at the beginning of the hot fit; but if this time had passed before his being called, he bled in the evening when it abated or went off, that he might be at liberty next day to make use of the remission or intermission, which commonly happens in the morning, to evacuate the first passages.

As explanatory of my own views in withholding the use of emetics in intermittent fevers, and, at the same time, as a reply to the cavillers against what they are pleased to call the refinements of French practice, I will venture to extract, verbatim, the entire paragraph in which their own classical **Cleghorn**, one of those whom **Rush** is said to have called medical apostles, gives his opinions on the subject.

"It is a controverted point whether it is best to discharge those noxious humours by vomit or stool. At first view vomits seem to be most eligible, as they quickly empty the superior part of the alimentary tube, which appears to be the principal seat of the morbific matter. But it must be considered that whatever irritates much, and produces violent commotions, ought to be avoided in the present case. *Cave ne inducas effervescentiam biliosorum* is a caution given by Avicenna; and the Spaniards, no more than the Italians, if their physicians may be credited, cannot well bear rough medicines of any kind. (Vid. Bagliv. lib. i. c. xv. § 5.) Besides, the inflammations of the bowels, too frequently accompanying tertians, are exasperated beyond expression by the strong contraction of the diaphragm and abdominal muscles in this operation: and if the spleen or liver is disposed to become putrid, which is no uncommon case in these fevers, it is needless to point out the dangerous consequences that may result from the repeated efforts of vomiting. For which reasons mild purgatives, though less powerful remedies, are the safest, and therefore to be preferred in the generality of cases. Those which I have found most beneficial are senna, manna, cremor tartari, but above all the sal catharticum amarum, (Epsom salts), which neither gripes nor disturbs the body, and seldom fails of having the desired effect in a few hours, a circumstance of great moment where the intervals are short. But if vomits are to be used, they should be given in the beginning of the disease, before repeated paroxysms have brought on inflammations, or too much dissolved the texture of the blood, taking care that the operation does not interfere with the fit, lest some sudden mischief should arise from the united shocks of the remedy and the disease."

If we except a few words indicating a belief in the humoral pathology, the preceding advice and cautions are just such as might be expected from an enlightened pathologist of the present day. The only justifiable season for giving an emetic in intermittent fevers must be at the very commencement, and in those cases only in which we have every reason to believe that indigestible substances, as of fruit and vegetable matters, have been taken and still remain in the stomach, a source of irritation and distress.

In reference to repeated evacuations, CLEGHORN, after telling us that he did not carry them as far as formerly, adds, that as he seldom omitted to bleed and purge once or twice, he rarely repeated either operation oftener. He instances worms in the first passages, which sometimes accompany tertian fever, as another inducement for purging in the beginning. In other words, we are to empty the intestinal canal of the residue of digestion and other obviously foreign matters, which had not escaped, or had been long retained, before the coming on of the disease. Then, if it be clear of inflammation, we can give the bark immediately with great advantage. If phlogosis be present in any part, we are called upon to bleed either from the arm or by the application of leeches or cups over the affected part, and to repeat the operation as often as the symptoms continue urgent. The cinchonic preparations in full doses will then complete the cure. In all protracted cases of the disease, bleeding is of absolute necessity, if we desire to remove the sustaining causes, viz. either chronic inflammation of the liver or spleen, or of the gastro-intestinal mucous membrane, or sometimes all conjoined. The supervening of anasarca, abdominal dropsy, chronic bronchitis, or pleurisy, will demand similar treatment; and until the local malady be removed and the stomach clear of irritation, of which we shall find the evidence in a tongue moist and divested of preternatural redness, we cannot hope for any good from the bark and its kindred preparations. On the contrary, painful and protracted disease variously masked will too often be the consequence of their exhibition, where these rules are disregarded.

It is perhaps due to those who are sceptical of the value which ought to be attached to inferences from the phenomena of a disease, and its analogies to others, to mention that the principles and practice, which I have deemed it my duty to lay down in the treatment of intermittent fever, have been tried by the test of a tolerably long period of successful experience. Independent of the opportunities for observation of anterior date, my situation for the last eight years as a physician to the Philadelphia Dispensary, has rendered it necessary for me to treat hundreds of subjects of this fever, from all regions and of all ages, to say nothing of the no small number of cases in private practice, scarcely less varied in their symptoms and complications.

ARTICLE VII.—*Observations on Pulmonary Consumption. By* JOSEPH PARRISH, M.D.

The following remarks on pulmonary consumption are confined to that form of the disease which is characterized by the presence of tubercles in the lungs, and which I believe to be essentially scrofulous in its nature, and very generally dependent on hereditary predisposition. I do not intend to enter into a description of the symptoms, or into any discussion of the pathology of this formidable complaint; my object is simply to present to the medical public certain practical views, which have resulted from an experience of many years, and an observation which circumstances have strongly directed into this particular channel. I do not, however, claim for these views the credit of originality. They are similar to those which have been taken by others, and are such as may very naturally occur to any practitioner of enlarged experience. But as different opinions are entertained by men eminent in the medical profession, the testimony of one who has seen much of the complaint may not be without utility in assisting the young physician to form a sound and enlightened judgment.

At the period of my entrance into the profession, the opinion was very prevalent, that consumption was an inflammatory disease, requiring in its treatment a vigorous employment of the various antiphlogistic measures. Frequent bleedings, a rigid system of diet, confinement in rooms of a regulated temperature, with the use of local depletion and of medicines calculated to lessen the force of arterial action, constituted the plan of management then fashionable both in our hospital and in the private practice of the city. It was the course pursued and recommended by that great and distinguished physician and professor, Dr RUSH, who also conjoined with it, in many instances, the liberal use of mercury. It is right, however, to state, that these measures were confined to the stage of the disease which he denominated inflammatory. In the last stage, he supposed that the degree of action was below that of health, and was accustomed to allow his patients animal food with malt liquors to fill their blood-vessels, and opiates to quiet irritation. Other practitioners, less attached to the free use of the lancet and to mercury, resorted to other measures of a different, but scarcely less energetic character. I remember that professor BARTON was fond of emetics, and gave largely of arsenic and Mosely's vitriolic solution. My highly esteemed and lamented preceptor, the late Dr WISTAR, was strongly attached to digitalis, which he prescribed very freely, and in one instance which fell under my notice, with apparently very favourable results. With these active measures, others of a milder character were united, such as blisters, issues, palliatives to allay cough, &c.; but whichever plan was adopted, the poor patients generally went one course, and that rapidly—they died.

When I began the practice of my profession, I was much disposed to pursue the course of treatment recommended by Dr RUSH, captivated, as were nearly all who attended his instructions, by his peculiarly happy method of conveying his sentiments and of recommending them by ingenious and forcible illustrations. The experience, however, of a few years was sufficient to convince me that a change was necessary. My doubts were, indeed, very early excited by the opposite results of two apparently very similar cases of the disease, which occurred at the same time and in the same neighbourhood, and one of which I myself attended in consultation with Dr RUSH and another highly distinguished physician. I will relate these cases, as strongly illustrative of the inefficacy and injury of vigorous medical treatment in this complaint.

The patient whom I attended was a young man, not more than twenty-four years of age, the eldest child of an anxious and affectionate father, whose wealth enabled him to command every possible assistance, and who, having lost a wife with pulmonary consumption, was alarmed by the first appearance of the symptoms in his son; so that no delay was incurred in commencing the treatment and no means were spared which it was thought might be productive of advantage. As it was in the beginning of winter that we were called to the patient, our first object was to obviate the effects of the weather: we therefore had him placed in a spacious apartment, the air of which was maintained at a uniform temperature by night and day throughout the season. This was effected by means of a soapstone stove, and a thermometer suspended in the room. The treatment at first consisted in a system of rigid dieting, with small and frequent bleedings, and the use of mercury. Ptyalism, however, could not be induced; and as the patient grew worse under the present plan, we laid aside the mercury, and resorted to diaphoretics. Sulphur and tar-water were also prescribed, under the impression that they had been useful in similar cases. But our remedies appeared to make no impression on the disease, which marched steadily forward. Various medicines were afterwards used with little advantage; among the rest, acetate of lead, which was given in the dose of two grains every two hours for several days in succession, with the effect of diminishing the frequency of the pulse; but as it induced symptoms of colic, we were under the necessity of abandoning it. At this period I visited the patient twice every day, and my two colleagues every morning; and nothing was omitted which occurred to the experience or sagacity of those highly distinguished physicians as likely to be productive of benefit. At length that stage of the disease arrived in which a supporting treatment was thought to be required. A stimulating diet, with tonics of various kinds, was now resorted to; but all our efforts were unavailing. The patient came under our care in the early part of winter, and died before the close of the following spring.

In the immediate neighbourhood of this young gentleman resided a student of medicine, afterwards a respectable practitioner. In the preceding summer, while resident pupil in the Pennsylvania Hospital, he had been attacked with hæmoptysis, in the treatment of which a vigorous course of depletion had been pursued. The hæmoptysis disappeared, but was followed by considerable debility. A visit to the country did not restore his health, and he returned in the fall too unwell to resume his duties in the hospital. At the commencement of winter, any one, upon observing the two patients, would have supposed that the student was further advanced in the disease, more reduced, and more likely to pass away than his unfortunate neighbour. He was pallid, emaciated, had cough and fever, in fact exhibited all the marks of confirmed consumption. He resisted, however, all attempts to induce him to submit to medical advice, from a belief that the practice which would be adopted, would tend only to hasten a fatal issue. The winter passed with no other treatment than the occasional use of slight palliatives, as paregoric to allay cough; and the spring which saw our patient carried to the grave, opened upon this young gentleman still alive. As soon as the weather permitted, he went into the country, and furnishing himself with a horse, sick and debilitated as he was, commenced the life of a country doctor. Strange as it may appear, he rode himself into perfect health. He acquired an extensive practice, married, and became the father of several children. He afterwards returned to the city, and fell a victim to typhus fever, contracted during his attendance upon the business of the dispensary. This happened ten or twelve years after the winter above alluded to; and not a symptom of his former complaint was observable for a long time before the period of his death. I often conversed with this gentleman relative to his case, and remember being told by him, that he found no remedy so effectual in relieving his distressing chilliness as a ride on horseback. In the midst of a chill, while sitting by a large fire, having the back of his chair covered by a thick coat or blanket, and yet unable to keep himself warm, he would receive a message from a patient at a distance requiring him to mount his horse. Almost immediate relief would be experienced from the exercise, and a ride of a few miles would produce so much excitement as to restore him to comfortable warmth.

A comparison of these two cases, so differently treated, and so different in their results, induced me very soon to doubt the propriety of that energetic practice to which I had before been inclined. Frequent opportunities afterwards occurred to me of witnessing the effects of rigid antiphlogistic treatment; and their almost invariably unfavourable character strengthened the suspicion of the inefficiency and even injury of such a course. I have repeatedly seen patients shut up in their rooms, subjected to frequent bleedings, and confined to a low diet; but I have never seen the disease yield to these measures; and a perseverance in them has appeared to me almost always to wear out and exhaust the powers of the system, and to hasten instead of protracting the period of dissolution. After a long course of observation and experience, having witnessed the failure of every mode of management which consisted in the employment of active medicinal agents, or required frequent professional interference, I at length came to the conclusion, that neither depletion, nor any medicine, nor any succession or combination of medicines, was equal to the cure, or even to the *material* alleviation of the complaint.

We hear, indeed, that phthisis is an inflammatory disease, and consequently requires the treatment which by universal consent is applied to other affections of this character. Rest, low diet, and depletion will subdue inflammation; why should they not be adequate to the cure of consumption? Theory points them out as appropriate remedies; experience is a fallacious guide; obey, therefore, the dictates of reason, and if the case should terminate unfortunately, your patient will at least die *secundum artem*, and you will have this consolation, that he ought to have recovered.

But I do not believe that the condition of the lungs in tuberculous phthisis is at all analogous to ordinary inflammation, nor that it is to be treated upon similar principles. The diseased action is peculiar, and requires peculiar modes of cure. It is true that genuine inflammation may, and often does, supervene upon the proper phthisical complaint, and tends to aggravate it. It is no uncommon circumstance for consumptive patients to be attacked with catarrh, and with acute pain in some part of the thorax. In this case, moderate depletion, either general or local, together with blisters to the breast, and other antiphlogistic measures, may be employed with advantage: but they should even here be used with caution, for fear of producing a degree of debility which the system in its diseased condition may not be able to surmount. But merely with the view of curing the tuberculous affection, bleeding should never be used: without diminishing the disordered action, it tends to enfeeble those vital energies which constitute the only defence against the progress of the invader.

The pulse, it is said, is strong, accelerated, and requires to be reduced. But it is a pulse of irritation, not of inflammation. Such a pulse you will often find in hectic patients continue to the very latest period of life, while all the other actions of the system are sunk in the lowest debility. Such a pulse I have known to be still more excited by the repeated use of the lancet; and it is often reduced and brought down to the natural standard by a contrary plan of treatment. I recollect a case of pulmonary consumption, in which a rigid antiphlogistic diet, adhered to for some time, had of itself the effect of producing a great increase in the excitement of the pulse, which was allayed by a change to more nourishing food. The circulation even of a healthy individual may be brought into an irritated state by depriving the system of that support from a due degree of food, air, and exercise, which is essential to the preservation of a just balance in all its operations. Take a robust man, confine him in a close room, bleed him repeatedly, diet him strictly, keep up action in his bowels by purgative medicine, and allow not a breath of air to blow upon him, and, if I am not greatly mistaken, his pulse will become frequent and irritated, with the occurrence of night sweats, and perhaps sizy blood; in fact that very condition of system will be produced, for which, in cases of phthisis, these measures are recommended as remedies. Now it is well known that in consumptive patients there is generally a preternatural irritability; and it is reasonable to infer that this irritability must be augmented by the means which are sufficient to produce it in a healthy man; so that the system will thus be rendered less capable of resisting the operation of morbid causes, and may sink under the local disease which it might have otherwise withstood for many years, perhaps ultimately have surmounted.

But, though the antiphlogistic course of treatment, and the use of powerful medicines, are calculated rather to co-operate with the disease of the lungs in reducing the system of the consumptive patient, than to relieve or eradicate the complaint, yet we are not therefore to surrender all hope, and yield up the sufferer an unresisting victim. On the contrary, much may be done by exertion on the part of the individual affected in controlling the disease; and instances are not wanting in which it would seem to have been entirely conquered.

Vigorous exercise, and free exposure to the air, are by far the most efficient remedies in pulmonary consumption. It is not, however, that kind of exercise usually prescribed for invalids,—an occasional walk or ride in pleasant weather, with strict confinement in the intervals,—from which much good is to be expected. Daily and long continued riding on horseback, or in carriages over rough roads, is, perhaps, the best mode of exercise; but where this cannot be commanded, unremitting exertion of almost any kind in the open air, amounting even to labour, will be found highly beneficial. Nor should the weather be scrupulously studied. Though I would not advise a consumptive patient to expose himself recklessly to the severest inclemencies of the weather, I would nevertheless warn him against allowing the dread of taking cold to confine him on every occasion when the temperature may be low or the skies overcast.

I may be told that the patient is often too feeble to be able to bear exertion; but, except in the last stage, where every remedy must prove unavailing, I believe there are few who cannot use exercise without doors; and it sometimes happens, that they who are exceedingly debilitated find, upon making the trial, that their strength is increased by the effort, and that the more they exert themselves, the better able they are to support the exertion.

It is said by those who oppose this kind of treatment, that the lungs are in a state of inflammation, and therefore require rest. But, admitting for a moment that the tubercles in pulmonary consumption are the result of ordinary inflammatory action of a chronic or subacute character,—an opinion, however, which I have already disclaimed,—yet the argument will not hold in the present case; for, from their very organization, the lungs cannot be at rest. From the moment we begin to breathe to the latest period of life, they are necessarily in continual motion. We cannot confine them as we can a diseased joint; and in attempting to restrain their motions by keeping the body at rest, without gaining our object, we generate a degree of irritability of system, which enables the local affection to operate upon the general health with a vast increase of deleterious effect.

I was much pleased to meet with a confirmation of my views relative to the management of pulmonary consumption, in the following extract from a work of Dr Colin Chisholm, whose experience entitles his opinion to great respect. "An active, bustling occupation of time," he says, "with exposure to what may be called and deemed hardships; such as occur in military service during an active campaign, or in maritime service of any kind; have sometimes produced a most wonderful change in a constitution broken down by phthisis. I have known instances of officers in both services recovering their health by seemingly inconsistent means. *One thing is most certain, that confinement to the atmosphere of a room, or even house, is most highly prejudicial*: it renders the person infinitely more susceptible of the impressions of cold, and thereby tends to augment the evil which it is supposed calculated to remedy."

By relating a few instances of the good effects resulting from the mode of life above recommended, I shall perhaps be able to give greater weight to the sentiments which I have advanced. The remainder of this paper will therefore be occupied with practical illustrations of the influence of exertion on the part of the patient, in suspending or curing the complaint.

Most of the medical men of this place are familiar with the name of the late Dr BALDWIN. This gentleman had a strong hereditary predisposition to pulmonary consumption. He had lost a father and several brothers with the disease, and was himself attacked with it soon after he graduated, and while a resident of Wilmington in Delaware. Aware of the nature of his symptoms, and convinced that fatal consequences must result unless he should depart, in his own case, from the ordinary routine of practice, he determined to try the effects of a change of climate, united with unusual bodily exertion. In the midst of winter he embarked for Savannah in Georgia, bearing with him letters of introduction to persons of the highest respectability in that place. This happened at least five or six years before his death. On his arrival at Savannah, he made up his mind to travel on foot to Milledgeville, the capital of the state, which was distant upwards of one hundred miles. His health was at this time so much impaired, that his friends at Savannah were disposed to consider him little short of a maniac. Disregarding, however, their representations, he took from his trunk some necessary articles of clothing, tied them in a handkerchief, ran a stick through the bundle, and placing it on his shoulder, set off on his pedestrian journey. As the country was but thinly settled, he endured many hardships and privations, being sometimes compelled to wade through streams, and often taking up his lodging in cabins, among people as untutored as the Indian, and partaking of their homely fare of ham and corn bread. Arriving safely at the capital, he there met with colonel Hawkins, agent for the United States among the southern Indians, by whom he was treated with great attention, and invited to accompany him to his residence. He accepted the invitation, and having passed the winter at the Agency, found himself, upon the opening of summer, nearly restored to health. On his return from this place to the coast, having learned that the naval surgeon at the station of St Mary's had died, he agreed, at the request of some persons concerned, to fill the vacant place till they could hear from Washington. Soon afterwards a commission appointing him naval surgeon was received, which he was induced to accept; and having settled in the country, he remained there for several years free from disease. On the fitting out of the expedition to the Yellow-stone river, he accepted the appointment of botanist, and, having been attacked, as I was informed, by his old complaint, died upon the journey. There can be no doubt that his disease was suspended several years by the course of life which he pursued.

A young physician, who had been a pupil of my own, was, soon after entering into practice, attacked with fistula in ano, for which I operated upon him. The fistula was small, but much indisposed to heal; and a long time elapsed before a cure was effected. Very soon afterwards he was attacked with hæmoptysis, from which he had scarcely recovered, when the symptoms of consumption became manifest. I watched the progress of the case with great solicitude. Necessity compelled him to use great exertion to gain a livelihood, and I was often surprised to find him at one time confined by an attack of spitting of blood, and a few days afterwards running about among his patients in the lanes and alleys of the city. I am convinced that his life was protracted at least one year longer than it otherwise would have been, by the great exertion to which the stimulus of necessity excited him.

Similar effects I have repeatedly witnessed in other cases. During my attendance in the Philadelphia Dispensary, my attention was occasionally attracted by patients affected with consumption, whose situation in life left them only the alternative of labouring for their support, or of becoming tenants of the Alms-House. The strong aversion, entertained by many of the poor to entering this institution, serves as a powerful incentive to exertion; and I remarked that some patients, who were by this cause induced to struggle by their labour for a support to the very last, continued longer, and bore their disease better than others, whose circumstances were considered much more comfortable.

From a fine, healthy looking practitioner of New England, who some years ago brought me a letter of introduction, I received the following account. In early life he had been affected with pulmonary consumption, and, while still labouring under the disease, had commenced the life of a country doctor. As there happened to be an uncommon degree of sickness in the neighbourhood at this period, he was compelled to make great and unusual exertion; and the result was a perfect restoration to health. In the course of conversation he said to me (I copy his words); "I have left a patient at home labouring under pulmonary consumption, with directions to ride ten miles every day, be the weather what it may." This was in the winter season.

The following notice, handed me by Dr GILMAN, was drawn up by a gentleman of Ohio, the father of the Doctor, and dated Marietta, 1823. "In the year 1804, Thaddeus M. Harris, a clergyman of Massachusetts, called at my house in Marietta, and from him I received the following account. He had left Dorchester, Massachusetts, that spring, so low in consumption, that neither he, nor any of his friends had an idea that he would be able to reach Hartford, Connecticut, distant one hundred miles. He arrived there, however; and, though still very weak, he was encouraged to prosecute his journey to New York. When there, finding that he was gaining strength, he concluded to proceed to the western country. On his arrival at Marietta, he was so well as to be able to ride forty miles a day to preach, and was in fact quite recovered. He returned to his parish in Dorchester in good health; and the last time I heard from him, which was about two years since, he was still well."

A gentleman of this city, when a young man, came under my care, during the winter season, affected with cough and hectic fever. I felt great solicitude in his case, and determined to try the effect of horseback exercise. In compliance with my advice, he rode daily through the winter, and in the spring was evidently improved. The summer opened upon him still affected with alarming symptoms. It was during the late war; and in the course of the season camp Dupont was formed. The young man joined one of the volunteer companies, marched down with the rest, and was subjected to all the hardships of a camp life. His health and strength increased; and he is now a hearty man, free from all signs of pulmonary disorder.

Another very interesting case occurred to me with a similar result. A little son of a respectable citizen of Philadelphia was affected with cough, hectic fever, profuse sweats, and great emaciation; and there was every reason to believe that his lungs were affected with tuberculous disease. Entertaining the conviction that any active medical treatment would insure a fatal termination to the case, I strenuously opposed the use of remedies which were pressed upon the parents by the kindness of their friends. Among the rest mercury was proposed. Happily they were disposed to listen to the suggestions of their physician, and no active treatment was employed during the winter. At the opening of spring, the child was sent into the country, with directions that he should have the benefit of free exercise, and the open air. He returned free from the pulmonary complaint, has since passed through the hooping-cough, and remains well to this time.

I shall close this list of cases, by giving one more illustration of the comparative effects of exercise, and of confinement, in the cure of consumption. Shortly before the death of Dr Wistar, an interesting young lady was brought from New Jersey, to consult him for chill, fever, pain in the breast, cough, and considerable loss of voice. These symptoms presented a gloomy prospect. The Doctor being absent on a journey when the lady arrived, she came under my care; and I had seen her several times before his return. We afterwards visited her together, and made a very minute examination of her case. Dr Wistar having been travelling over the mountains, in which mode of life he took great delight, was fully prepared to appreciate the effects of air and exercise. We had retired for the purpose of a consultation, and had re-entered the apartment, when looking round the room, he made this remark to me: "Doctor, do you not think it looks confined and close here? Do you not think it would be best to send her back to the country, and direct her to ride every day?" I concurred heartily in the proposition. We put a seton in her side, and then advised her to return home, and use exercise. The winter passed over. The following summer she visited Philadelphia greatly improved in health, and, as I afterward learned, became perfectly well.

About the same time with the above case, I attended another young lady in consultation with a practitioner of the highest respectability in this city. The patient had been attacked with hæmoptysis, and was now labouring under hectic fever and cough. It was suggested, in this case, that the disease was of an inflammatory character, and was to be encountered by depletion, low diet, and perfect rest. The last was considered a point of peculiar importance. The plan was put into operation. As the patient continued to grow worse, other remedies were tried; but were all of no avail. She died in a few months from the commencement of the treatment.

Before dismissing the subject, I would repeat my conviction, that, in the management of pulmonary consumption, no remedies are so efficient as fresh air, and active, continued exercise; and that, as a general rule, all medical treatment of an energetic character had better be dispensed with. There can be no doubt that the physician may occasionally interpose palliative remedies with advantage; and symptoms often occur in the progress of the disease which require his interference. In a future communication, it is my intention to point out circumstances, in which the advice of a judicious practitioner may be of essential service in the relief, if not the cure, of the disease. But taking cases as they usually occur, and considering the various modes of practice which have been adopted, and are at present in use, my decided impression is, that if patients affected with phthisis were universally left to themselves, with no other medical advice than to exercise themselves freely in the open air, the general result would be a longer continuance of life, and a greater number of recoveries.

The young practitioner will often find it exceedingly difficult to carry these views into effect. The solicitude of friends, and the anxiety of the patient himself, are seldom satisfied without the constant attendance of the physician, and are always calling for the interposition of active remedies. No little firmness is requisite to resist the suggestions and solicitations of alarmed affection, and to encounter the risk of injury to his professional reputation and prospects, which may result from his apparent or supposed neglect. Even the fallacious hopes which are apt to rise in his own mind, require a strong effort of judgment to be controlled. But he will find his ultimate interests to comport with a perseverance in a course of conduct compatible with his principles. If he take the proper pains to impress his views upon the minds of those concerned; though, in the temporary excitement of suffering and alarm they may do him injustice, they will generally, in the end, when they have discovered their error, repay him for their temporary alienation by increased confidence. In the number of those whose families I am in the habit of attending, there are none who exhibit a more entire, or more affectionate reliance upon my desire and ability to aid them in sickness, than some, who have at a former period, in consequence of my conscientious recommendations in consumptive cases, considered me as either unskilful or negligent, and thought themselves bound to call in the aid of other counsel. In his own breast, however, the honest physician will find the surest recompense for whatever present ill will he may incur in the discharge of his duty; and this consideration should itself be sufficient to render him firm in the course which his best judgment may dictate, though opposed to the prejudices of the uninformed, and the opinions even of those whose talents and station he may greatly respect.

Article VIII.—*On Aneurism and Inflammations of the Larger Arteries.* *By* B. H. Coates, M.D. *One of the Physicians to the Pennsylvania Hospital.*

[Read before the Philadelphia College of Physicians, May 26, 1829.]

There is reason to suppose, from the observation of facts, that aneurisms of the larger vessels exist in a frequency disproportionate to that with which they are anticipated in our usual diagnosis. In this I have been confirmed, by discovering three instances, and cause for suspecting a fourth, among so limited a number of patients, as those admitted into the medical wards of the Pennsylvania Hospital in the autumn of 1828; as well as from the frequent occurrence, in dissection, of more or less extensive enlargements of the arch of the aorta and its vicinity.

One of the cases alluded to has been already described in a short paper which I read, a few days since, before the Kappa Lambda Society. It was exclusively treated as emphysema of the lungs; and dissection evinced, that this last named morbid change had in reality been produced, probably owing to the repeated and violent fits of coughing, occasioned by the pressure of the aneurismal tumour on the windpipe, and a consequent bronchitis.

The second case offers little to interest in the narrative; and is valuable chiefly as exemplifying the frequency of these occurrences. A man had been for some time treated for pains which were considered rheumatic, including some situated in the intercostal muscles of the left side. After a treatment of some duration, and on being desired to point out the situations of all his pains, he called our attention to a spot in his neck, where I found a distinct aneurismal tumour formed of a part of the arteria innominata. Upon this discovery, the patient was transferred to the care of my friend Dr J. Rhea Barton; and I possess no further records of the case.

The third case I have thought of interest sufficient to warrant the drawing up of a full account of it, which is herewith presented.

Subject about 35 *years of age; pain for five months; perceived tumefaction two months—a pulsating tumour in left epigastrium. Treatment; venesection; digitalis—palliation. Rupture while at stool—pains resembling griping—collapse and death in two hours. Tumour within less omentum, composed of anterior part of aorta,* *including superior mesenteric and cœliac artery; lining membrane over part of tumour; coagula. adhering to the remainder; rupture by the anterior part; gastritis; other organs examined, sound; tubercular matter under lining membrane.*

William Pickering, aged about 35 years, a New Englander, a middle sized sallow looking man, hair and eyebrows dark, was admitted into the Pennsylvania Hospital August 26th, 1828. Had never suffered any particular violence to which he could refer the disease. Had a fever about five months since, in Charleston, S.C. since which time he has had pain in epigastrium; and two months since, he discovered the tumour and pulsation.

Violent pulsating pain in a tumour distinctly felt at left side of epigastrium—obliged to take seventy drops of laudanum every night—could seldom lie down—pulse full, hard, 104 to 108—skin not particularly hot—tongue white in middle, red, and uneven at edges.

Bled ℥xiv. Tinct. digitalis gtt. x. ter die.

27th. Has not slept well. Had a good deal of pain. Had no laudanum. Pulse 120. Increase digitalis to gtt. xv. ter die.

28th. Easier. Cannot sleep in a horizontal posture.

The digitalis was subsequently increased to gtt. xx. and acetated tincture of opium given to the dose of gtt. xl. at night.

During the next three or four days his pains were somewhat diminished; and he could sleep at night when he took the acetated tincture. The redness at the edges of his tongue diminished; and a slight soreness of the epigastrium, which seemed somewhat ambiguous, disappeared. His pulse sunk to about 104; and diminished in force. At one time his pulse was 92.

Sept. 4. Constipated two days. Ol. ricini ℥ss.

P.M. About 4 o'clock, felt pains which he took for a call to stool; moving from the lumbar to the hypogastric regions. Went to the close stool several times, but could obtain no evacuation. Extremely weak and covered with a cold sweat. Sent for his medical attendant. Could not lie down. Pulse nearly imperceptible at wrists, and soon disappeared. Slight tumefaction in lower part of abdomen. Died in about two hours.

Remarks.—It was not thought that the digitalis produced any diminution of the frequency of his pulse. The latter appeared to suffer an evident diminution of force, from whatever cause.

The increase of pain on the day and night of the 26th, was ascribed to the agitation consequent on his removal to the hospital.

Dissection, twenty-one hours after death.

Body—sallow; not particularly emaciated.

Abdomen—about a pint of *blood* effused; including large coagula; some adhering to the tumour; some blood in the pelvis, and some on each side of the abdomen, and among the intestines. *Tumour* found above the stomach, behind the less omentum, below the liver, just touching the gall-bladder towards the left. Dense; feels like the heart, but a little softer. Removed.—Not quite as large as the heart. Commences in anterior portion of aorta, just above cœliac artery, which it includes, as well as superior mesenteric, and both the spermatics. Lining membranes smoothly extended through a flattened oval orifice, about two inches long, with rounded extremities; and continuing over the interior for various distances, from one to two inches; after which large coagula adhere to the whole remaining surface. Elastic, contractile coat continues a little further; edges ragged. Orifice of cœliac artery completely closed by adhesion, which offered considerable resistance when separated by a probe. Spermatics also closed. Superior mesenteric had its origin obscured by adherent coagula; but a probe passed from it into the cavity of the tumour without any resistance. A portion of the crus of the diaphragm lying adjacent, the vena cava, the vena portarum, and some dense cellular matter, adhered to the tumour. Cellular tissue about its ruptured end excessively injected with blood. Rupture at upper and anterior portion, about large enough to allow the thumb to pass, but may have been torn in the dissection; as the finger of one of the operators passed through it before it was seen. Adherent coagula arranged above one another. *Aorta.*—Part posterior to the tumour nearly natural, as well as immediately above and below; somewhat uneven, however, and containing occasional deposits of a white cheesy matter, having, where examined, the appearance of imperfectly softened tubercles. Similar deposits were found throughout the arch of the aorta, and were at first mistaken for plates of bone. In some of these the whitish matter was entirely soft, and the adhesion between the lining and elastic-contractile coats entirely at an end, leaving a cavity. Similar unevennesses occurred in the arch of the aorta, but it was of its natural size. Lining membrane thickened over these deposits, and over the vessel generally. About a square inch of outer side of arch thickened and hardened with this matter. Corpuscula arantii (of aorta) contained earthy matter.

Stomach.—Cardiac portion muddy white, with a pearly tinge; pyloric, red in many places; pylorus itself, and commencement of duodenum, strongly red.

Small intestines.—Cut open in many places, and found of a faint reddish tinge.

Large intestines.—Opened in the same manner. Three chocolate-coloured spots, as large as sections of peas, found. Nothing peculiar noticed besides.

Liver.—Natural.

Spleen.—Natural, but firm.

Thorax—Lungs.—Healthy, except adhesions of an old and cellular appearance at the anterior and upper part of the right pleura.

Heart.—Natural.

Head.—Not examined.

It is obvious that the aneurism, in this case, furnished an example of the kind described by Mr HODGSON, which exhibited three distinct stages in the progress of the disease; as the portion of the tumour situated next the aorta presented a lining membrane of the appearance usual in the interior of large arteries; while the remainder of the cavity was formed by cellular membrane, the crus of the diaphragm, the trunk of the vena portarum, and other adjacent parts, united by adhesion, and thickly injected with coagulated blood.

The depositions of tuberculous matter, and the various unevennesses of surface in the other parts of the aortic tube, seem effectually to evince the existence and long continuance of a chronic disease in the lining and elastic coats of the vessel; and, from analogy to similar productions in other parts of the body, these are to be presumed to arise from an irritation of a nature analogous to inflammation; the same which produces tubercles and chronic hardenings and stiffenings in other textures. We may also observe the analogy of the white cheesy matter found in the thickness of the artery, to the pultaceous substance mentioned by M. BECLARD and the yellowish or whitish purulent matter described by M. MARJOLIN and others. The latter is considered by M. DELPECH as being situated in an ulceration of the elastic coat, and forming a cavity in reality like an abscess. The different coats, and especially the internal one, have, in other instances, been found thickened, tumefied, and converted into a hard, homogeneous, coriaceous substance. In the thickness of the part has sometimes been found a substance resembling tallow. This matter, in some cases, protrudes into and obstructs the cavity of the vessel; while, in others, the arteries have been dilated and softened at the place of its deposite; or, again, the lining membrane has been softened and ulcerated immediately over it. In other cases, the internal membrane of the artery swells, softens, assumes a fungous or pulpy appearance, becomes covered with vegetations, and concludes by deep ulceration.

These morbid changes, which, together with ossifications, complete the list of those generally found to precede aneurism, have been chiefly gathered from M. Marjolin. They are usually found to prevail to a greater or less extent above and below the tumour, as well as at the point of formation of the latter. Now the question may be fairly asked, whether these are not all the product of chronic inflammation? Certainly such productions in other parts of the body are frequently referred to that cause.

It may be objected to this that the ossifications, which so generally form the leading visible mark of disease found in the texture of aneurismal arteries, are commonly the simple product of advanced age; and that they therefore cannot be set down as evidence of chronic inflammation. To this we reply by the fact that a difference is described by the morbid anatomists between the ossifications which arise from age and those which precede aneurism, though the distinctions are not always clearly drawn*. And it may be added that the researches of Mr Howship on the generation of bone, have convincingly shown a strong analogy between the production of that texture and inflammation, in the relation which they both bear to the operation of the minute arteries.

But be this as it may, if we were to concede that the inflammatory character was not evident in the production of bony deposits, certainly there are enough of other distinguishing marks to give such a designation to the organic process in which they take place. The thickening, hardening, increased growth, deposition of pus and tubercular matter, &c. are sufficient; and especially when we add to these the exhibition, so frequent during life, of *pain*. The ascertaining of a character indicating the commencement of aneurism, if founded on undeniable fact, would be a valuable step in the simplification of medical theories, and would add one more to the list of diseases, diversified in their aspect, but reducible to the common type of phlegmasia.

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* Vide Art. Aneurisme, by M. Marjolin, in Dict. de Med. Tom. II. p. 269; and Art. Artere, by M. Beclard, Tom. III. p. 29.

The power of distinguishing the occurrence of arteritis, in its earlier, or at least, less complicated forms, would be an object very desirable to the physician; and it is something to be aware of its frequent existence. I apprehend that there is good ground for suspecting that this disease exists by far more frequently than is commonly apprehended to be the case, even from the researches of dissectors. The morbid appearances, which have been considered as characterizing inflammation of the arterial tubes, are redness and thickening of the internal coat, enlargement, to a size visible through the latter, of the capillaries of the middle coat, and the effusion, in some shape, of coagulating lymph. To these are added adhesions, &c. indicating a higher degree or longer duration of the affection. But a redness of the part is beyond comparison more frequently met with than as accompanied by the other changes enumerated above. This red colour is generally considered a cadaverous phenomenon, the mere result of infiltration. Yet I do not know of any positive means of proving this to be the case. I have seen it present in some subjects, and absent in others, while both of them contained the usual small amount of sanguine coagulum within their arteries. In other cases, by no means of rare occurrence, the red colour exists, in a nearly even intensity, over a considerable surface, and terminates by a distinct border, of an irregular shape, and possessing no relation to the position of the corpse. If this colour be produced by infiltration, it seems more probable that it would appear most intense in the most depending parts. Now this is by no means the case; and I recollect an instance in which the red hue terminated in long irregular bands, in the common and external iliac arteries; a region where, from the position of a subject lying on its back, the colour should have been intense. There is no reason, a priori, why the arteries should not be as frequently inflamed as any other part; on the contrary, they are very frequently exposed to the action of exciting causes, even to a violent extent. Febrile affections of any kind, emotions of the mind, particularly if sudden and violent, stimulating food and drinks, and even exercise, are known to act powerfully on the arterial texture; while, on the other hand, there is considerable difficulty in assigning any reason why these parts should be exempted from the universal and destructive agency of cold and moisture. Various medical theorists have entertained the same opinion; such as DARWIN and RUSH, who assign an inflammatory affection of the arteries as the cause of the common synocha; but I am not aware that they attempted to make good their doctrine by dissection.

In COXE's Medical Museum, Vol. IV. p. 60, is a case by Mr WELDON, of a woman who died of an inflammatory fever, characterized by violent pain over the whole body, a hot, dry skin, great prostration of strength and spirits, an inattention to external objects, a pulse extremely hard, quick, unequal and irregular, having at the same time, a peculiar tremulous character, the blood drawn presenting an inflammatory appearance, and, towards the decline of the disease, œdema of the extremities, gradually spreading over the whole body. The disease was immediately subsequent to apparent recovery from a slight attack of fever, and continued four weeks.

On dissection, the thoracic and abdominal viscera were found sound; with the exception of the lining membrane of both cavities of the heart, which were "of a florid red colour, evidently produced by inflammation, with small irregular patches of coagulating lymph adhering to it." The small vessels in the inner surface of the aorta were "so completely injected with red blood, from preceding inflammation, as to give the whole surface an uniformly florid red colour." Small patches of adherent coagulating lymph were also found. One of the carotids, the internal and external iliacs, the popliteal, and one of the axillary arteries, were all examined, and found in the same inflamed state. The inner surfaces of the pulmonary artery and veins, the vena cava, and the axillary and popliteal veins were found inflamed in a less degree, but without the adherent coagula. The wound from bleeding had healed favourably.

ARTICLE IX.—*Remarks on French Practice. Communicated in a Letter to* CHARLES D. MEIGS, M.D. *of Philadelphia. By* R. LA ROCHE, M.D.

Paris, February 28, 1829.

The opinions of the medical world in relation to the merits of French practice are diversified; for while some maintain that the physicians of this country, although they have contributed largely to the progress of the various branches of medical knowledge, have remained completely in arrears in regard to the treatment of disease;—that they are without exception, very inferior, as practitioners, to the English and Americans, pursuing, as they do, a method ridiculously inert, often irrational, and conspicuously unsuccessful; others, adopting an opposite sentiment, affirm that French practice is decidedly superior in all respects to every other method of treatment with which we are acquainted; in a word, that France must be regarded as the only country in this world where good practitioners are to be found. A third and more moderate opinion is held on this subject; that the French are neither better nor worse practitioners than the physicians of other countries. The degree of confidence to be placed in these various sentiments deserves to be inquired into; and as a pretty extensive acquaintance among the physicians of this city and other parts of France, as well as a diligent attendance at the hospitals, have afforded me ample opportunities of prosecuting this inquiry, I readily comply with your wish that I should communicate to you the results of my observations.

From all I have had occasion to see of French practice during a residence of nearly two years on this side of the Atlantic, I have not the least hesitation to say, that those who have adopted the two first opinions to which I have alluded above, have gone to unjustifiable extremes; the former in casting unqualified censure, and the others in bestowing as unqualified praise. I am willing to admit, that the accusation brought against the French of being unnecessarily inert and timid in their practice, is well founded, if applied to a particular class of physicians among them, and especially to their method of treating certain diseases; but I have reason to think, that it is not as evidently so if extended to all classes of practitioners here indiscriminately, and with reference to the plan they pursue in all sorts of complaints. With regard to the charge of being irrational, and usually unsuccessful in their practice, so far from admitting it, I fear not to affirm, that whatever may be said of their timidity, the French practise generally on more rational principles than their opponents are willing to admit; that though they ordinarily treat some diseases in a less successful manner than the English or our own practitioners, there are other complaints they manage much better than either of the latter.

Were there no other reasons indeed for rejecting these two extremes in opinion respecting French practice, I should be disposed to do so from the circumstance that it is not even *probable* they could be well founded. A few words will, I am certain, render this evident to you. That the physicians of France have contributed largely—perhaps more than those of any other country—to extend the boundaries of our knowledge in the various branches of the science of medicine, is a fact it would be vain to deny. To be convinced of this it is only necessary to glance at the history of our profession; to mark the improvements that have been made within the last twenty or thirty years in all the departments of the science, and notice the names that are connected with these improvements. Such an examination will, I feel persuaded, show you, that for method, doctrine, details, &c.—for every thing in fact worthy of our attention in medicine,—we are principally indebted to the physicians of this fine country; and that at the present moment, they occupy the first rank as anatomists, physiologists, pathologists, surgeons, &c. Such being the fact, and I believe that few in our country will contest it, it appears to me difficult to conceive, that men, who have attained so high a degree of eminence in the different branches of our profession, should continue so totally deficient in the most important of them all—practice. The same powers of mind that led them to improve so rapidly every department of medical knowledge, ought undoubtedly to have aided them in detecting the errors of their method of treatment, and in adopting another and more successful one. While admitting this, I cannot see, on the other hand, why the French should so unceremoniously arrogate to themselves the sole possession of practical skill; for physicians in other countries are equally endowed with intellectual powers, enabling them to draw as fair deductions from facts presenting themselves to their observations, and though not always having claims to the credit of being as scientific or rational in their practice, may yet, on the whole, prove equally successful in the treatment of disease.

From this you will readily perceive that I am inclined to adopt the third opinion I have just noticed, and to believe that, if taken *en masse* and judged in reference to their method of treating diseases generally, the French must be viewed as neither better nor worse practitioners than the physicians of other countries.

Let me here remark that French practice is thus indiscriminately censured only by young foreigners, who, after a hasty course of study —often without any previous study at all, come here to lounge through the wards of the hospitals (sometimes without even a sufficient knowledge of the language to enable them to understand what is said in their presence); or by physicians at home and elsewhere, who know only from the reports of others what is doing here, who never open a French medical work, have never been in this country, and who are generally too firmly convinced of the excellence of their own practical views to admit the correctness of those of others. The arguments I have heard some make use of to show the *wretchedness* of French practice, appeared to me sometimes very amusing, and never, so far as I can recollect, conclusive; amounting generally to this, that such a practice must necessarily be objectionable, since it differs materially from that which these critics had seen pursued, or had themselves adopted in their own country!

As regards myself, I was early disposed—even long before leaving America, to attach very little weight to these unrestricted censures. My reasons for doing so were, that the majority of those who are most clamorous in their opposition to French practice, are not,—from an unwillingness to make trials of it, arising from prejudices in favour of their own views or those of their teachers, often from inexperience in the profession,—qualified to decide in a question of the sort. 2. That before pronouncing a method to be good for nothing, on the plea that it differs from the one we pursue, we should first prove satisfactorily that ours is the best of all, or at least better than the one censured. 3. That from the reports of hospital practice here and in other countries, there did not appear to be much difference in results. And, finally, that having attended closely to the practice of some French physicians in America, and compared it with that of other medical men,—having myself repeatedly put the same method to the test,—I could neither discover in it that decided inferiority which alone could justify the indiscriminate censure it daily encounters, nor perceive the propriety of the preference so generally claimed by other physicians for the practice of their respective countries.

Such was the opinion I formed on the subject previous to my arrival in this country; and, as I naturally felt desirous of ascertaining whether a more extended investigation of the subject would tend to confirm or destroy it, I immediately set to work, and have continued at it ever since. This investigation soon led me to perceive that French practice is not a *unit;* in other words, that there is not among the physicians of this country that unanimity of sentiment as regards the best method of treating disease, which some imagine to exist; and that, independently of the rather vulgar divisions into *good*, *tolerable* and *bad*, of which these, like practitioners of all countries, are susceptible, the former may very properly be arranged under several heads. For all our present purposes it will be sufficient to make four divisions of them. In the first, I will place those who, having received their medical instruction at the time Pinel was the oracle of French medicine, and imbibed his views, continue to this day to pursue the practice he pointed out to them. In the second class will be found those who have adopted the doctrine and the practical precepts of Broussais. The third includes a numerous set of physicians who style themselves *eclectics*, and by others are called *anatomo-pathologists*, for reasons I shall specify hereafter. Finally, in a fourth class I place *symptomatists* and *empirics*[*]. On each of these classes it will be necessary to offer here a few remarks.

Every physician, conversant with the history of medicine in France, must be aware, that to Pinel the greatest credit is due for the numerous and important services he rendered to the science. Indeed, were the writings of this celebrated author on mental diseases—the success of his endeavours to dissipate the chaotic confusion into which their nature and treatment were before his time involved, his only claims to the gratitude and admiration of the profession, he would be justly entitled to a much larger share of them than ordinarily falls to the lot of a physician. But they were not all; and the zeal and ardour with which he strove to simplify the classification and description of diseases; to analyse their character; to explain healthy and morbid phenomena on more rational principles than could be done by the doctrines of the mechanics and humoralists, both of which, notwithstanding the efforts of the school of Montpellier, were still much in vogue in France; his happy idea, afterwards so brilliantly developed by BICHAT, of studying inflammation as it appears in the different tissues, as well as the necessity he *felt* of referring diseases to a local source; his endeavours to establish correct rules of diagnosis and prognosis and a more rational mode of treatment, and to improve the method of observation; all these I say constituted so many additional claims for him to the thanks of his professional brethren, and justified the high esteem in which he long continued to be held, and the deference that was paid to his views by his countrymen. But no man is infallible; sciences improve, and what appears excellent at one period, ceases to be regarded so at another. Not many years had elapsed since the publication of the *Nosographie Philosophique*, before it was found that PINEL had successfully pointed out, it was true, the errors of his predecessors and contemporaries, but had not been so fortunate in rebuilding the edifice he contributed to demolish; that he had not even laid the foundation of a rational system of medicine; that his classification was vicious; that what he so pompously denominated a philosophical method, little deserved, when examined closely, that appellation, being but too often liable to lead from the right path; that his pathology was made up of elements borrowed from the preceding systems, and linked together often with little art, and that the whole derived a varnish of novelty and freshness, mainly, from the elegance of his style, and from the doctrines of solidism and vitalism with which it was pervaded.

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[*] Some of my medical friends here, with whom I have conferred on this subject, are inclined to think that French physicians may be very properly classed into theorists, and such as follow nature and take experience as the basis of their practice. Among the former, which they regard as a dangerous set, they unceremoniously include Broussais and his school; while, among the latter, they place all the other classes I have made. I object to this division, however, because all physicians theorise; and the only difference among them in that respect is in the extent to which they do so, and in the nature of their theories: and secondly, because they must all follow nature, and assume experience as the test of their practice.

Above all, it was discovered that the method of treatment he endeavoured to substitute for that of his contemporaries and predecessors, though sometimes rational and successful, was often very far from being so. The reason of this is obvious: naturally timid and disposed to *doubt* a good deal; deeply read in the Greek medical classics, and devotedly attached to the precepts of the Hippocratic school, his practice readily became influenced by these circumstances. Consonant with this disposition of character, and this attachment to the precepts of the Coan sage, he inculcated by his example, and in his writings, the necessity of watching carefully the progress of the disease; of not disturbing nature in her endeavours to get rid of the malady, but of merely promoting them. It does not indeed seem to have once entered his brain, that diseases can and should be cut short by a judicious employment of therapeutical means. Well, this same philosophical scepticism, as it is called, this same veneration for nature, and consequent timidity in practice, distinguish his followers now; they literally do nothing in chronic, and hardly any thing in acute diseases,—generally contenting themselves with prescribing a moderate bleeding; a rigorous attention to regimen; the frequent administration of *lavemens;* seldom of purgatives, except after a change for the better; large potions of ptisans, and, when the powers of life are failing, or the disease is thought to depend on debility, as in chronic maladies, &c. means calculated to give tone and strength to the system. Whenever they resort to the lancet, to leeches, or to internal remedies, it is always with timidity, when the indications are too glaring to remain unnoticed, and I need hardly add, often when it is too late. In fine, they afford the vis medicatrix the best chance possible; and cannot, in justice, claim credit for contributing effectually to the cure of the disease, or be accused of hastening, though they may be for not preventing, the fatal termination of the case. If we assume such a method as the true type of French practice, we would doubtless be justified in casting a decided censure upon it; for whatever might have been the advantage, in Greece, of this truly Hippocratic *expectation*, it does not require much experience in the diseases of this country, to discover that it is not so well calculated to ensure success here as a more energetic method.

It is to the honour of French medicine, that the loudest opposition to this mode of practice, (by which, as you will perceive, physicians are transformed into little more than the nurses of their patients) was made in France. The number of its partisans is daily diminishing by death; while few recruits have been made among graduates of the last fifteen years, and still fewer among the rising generation of physicians: nor is it difficult to perceive, in the writings of the remaining Pinelists, a tendency to modify their pathological views as well as their method of treatment. You must not imagine from what I have thus said, however, that the physicians of this class are *uniformly* unsuccessful in their practice.

PINEL and many of his disciples were too intelligent, and too evidently influenced by a spirit of philanthropy, not to have felt, had all or most of their patients died, the necessity of abandoning so detrimental a method of treatment, and adopting a different and a better one. They were aware that nature, with a little help, is often adequate to the task of getting rid of the most acute and dangerous diseases; that in many cases more harm than good is done by interfering with her efforts; and perceiving every day, that patients got as well under their method as under those in vogue before and during their time, they continued to pursue it. I have myself known in different parts of this country, physicians of this class, who are in extensive practice, and was surprized and gratified to find, that their patients got well without difficulty, though sometimes rather tediously, notwithstanding that nothing more energetic than ptisans, *lavemens*, poultices, &c. were used. This success of nature, not of the doctor, does not prevent me from thinking, however, that such an inert practice, if applied to all cases indiscriminately, will be found insufficient; and that the change that has taken place in the minds of professional men here, as regards its usefulness, is very much to be praised.

To BROUSSAIS the credit is doubtless due, for being the first who pointed out in France the unstable foundation of the edifice which PINEL had attempted to raise, as well as the necessity of resorting to a different, more rational, and more energetic method of treatment. Accustomed as he was, from early age, to the manners, and inured to the dangers of the camp, the natural boldness, I had almost said fearlessness of his character became more fully developed. Enjoying also the inestimable advantage of having seen on an extensive scale, during campaigns in Italy, Germany, Spain, Holland, &c. diseases under various modifications produced by climate; endowed at the same time with great vigour of intellect; he was better suited for acting the part of a reformer, than could have been an individual who had always mixed with the more civilized circles of society, and been restricted to a smaller sphere of observation. His success was complete, and the appearance of the *Examen des Doctrines Medicales* produced, in the science and practice of medicine, a revolution equal to, if not greater than, any of those recorded in the annals of our profession.

As I have already told you, the partisans of the physiological school constitute a separate class of physicians, the practice of whom deserves a particular examination.

Establishing, as axioms in medicine, that the greater number of diseases are the result of a local irritation or inflammation; that these morbid states are identical in their nature, and differ only in respect to degree, and to the nature of the texture in which they are seated; that they require an analogous mode of treatment; that the mucous coat of the stomach and bowels is concerned, primarily or secondarily, in a vast majority of diseases, and requires when thus affected, the special attention of the practitioner; rejecting also the long established notions of the fixed duration and progression of disease, M. Broussais, and those who take him for their guide, maintain that acute diseases should always, if possible, be arrested in their progress; that if from peculiar circumstances, as the period at which the assistance of the physician is sought, or the violence of the attack, this desired effect cannot be accomplished, the physician should at least endeavour to *eradicate* the disease completely, in order not to leave behind a chronic inflammation, the too frequent result of a timid practice.

To accomplish these objects, they resort much more frequently than the other classes of physicians here, to the antiphlogistic and evacuating methods, and particularly to the use of the lancet, which they occasionally carry to a great extent, without being deterred from so doing by the fear of debility. Indeed, it is impossible to see them practise, in some cases of acute inflammation, without perceiving that they approach very near, in that respect, to the English and American physicians. Guided, however, by their peculiar views respecting the local origin of diseases, and the modus operandi of the different methods of abstracting blood, they prefer, in most of those instances in which we would open a vein, the application of leeches. It is necessary to remind you, however, that French leeches have much larger teeth, and occasion consequently a larger wound than ours, and that, by promoting the evacuation by means of hot water, poultices, or the like, a very considerable quantity of blood may thus be procured. In this way, the proselytes of the new school, the *medecins physiologistes*, as they style themselves, often succeed, as American and English physicians, long before them, have endeavoured to do, in arresting the progress of acute cases, or at least in removing completely all traces of inflammation. In their strict adherence to abstinence, and their prohibition of every source of stimulation in acute and chronic inflammations, they may further be assimilated to the most judicious of the

American and English practitioners, and, to a certain degree, though generally from very different pathological views, to the disciples of the Pinelian school. But here I believe the parallel between them and the former ceases; for, influenced by their ideas of the local origin and seat of diseases generally, they direct their remedies more to the local affection than to the general disturbance of the system, regarding as they do the latter as an effect of the other, and as necessarily yielding together with it, unless some other organ has taken on a morbid state, and has thus become the new focus of the disease, demanding in its turn a special treatment.

In all this I believe they act more rationally than physicians who practise agreeably to different principles; and from all I have been able to see or hear on this subject, as well as from the trials I have made of this method, I have no doubt they enjoy the additional and more important advantage of being more successful. Nor is the superiority of their method and practice manifest in a few cases only. Studying with greater care than others the condition of all the organs; of the stomach and bowels particularly; the influence of the irritation of one part in the production or removal of irritation of other parts; discriminating, in the nicest manner, effect from cause; they are enabled, in very many instances, to effect a good deal with little means, while the one who simply combats the more violent symptoms is obliged to resort to many and more energetic means. It is particularly in the treatment of fevers, as well as of other irritations and inflammations, acute and chronic, of the gastro-intestinal mucous surface; of chronic inflammation of the serous membranes; and of the substance and coverings of the brain and spinal marrow, that I have found their method of treatment preferable to that pursued by physicians of other classes here, or indeed to that adopted by the generality of English and our own practitioners. This indeed is easily conceivable; for by directing their means to the local disease, and by attacking the latter boldly, they strike the complaint as it were at the root: while other physicians occupy themselves with lopping off the branches and getting at the body of the derangement by indirect measures. 'Were the plan, here alluded to, only *equally* successful with the latter, it would yet have the advantage of being more simple, and less disgusting and distressing to the patient. What indeed can be more so, than the constant administration of active and nasty internal remedies, which keep the patient in a continual state of uneasiness, and frequently are of no service whatever, except, perhaps, to conceal the embarrassment of the doctor about the seat and nature of the disease?

Do not imagine, however, that, because I regard M. BROUSSAIS as having much improved some points of the practice of medicine, particularly the treatment of fevers and other gastro-intestinal irritations, I am disposed to coincide in sentiment with those who maintain that he has revolutionized and reformed the whole practice, and that all he affirms respecting the efficacy of certain means, and the danger of others, is to be received without restriction as the infallible decisions of an oracle. Far from this, I am sure, from what I have had occasion to see, that he often is too exclusive, and carries his peculiar views much beyond what experience would seem to justify. I cannot find that he has added a single fact to those already known in relation to acute serous and parenchymatous inflammations. Fancying also that he discovers gastritis in many cases in which others would more properly see a nervous irritation of that organ, he pushes in such instances, the antiphlogistic and starving system of practice to very great extent—often to the prejudice of his patient, whose disease would seem to require a different mode of treatment. He refuses to believe, indeed, that nervous and sanguineous irritations demand a different mode of treatment, and offers us, here, an example of the danger of carrying our theoretical views too far. Even in gastro-enteric inflammation, I am not sure he is not too exclusive in his views. Every physician who has seen much of disease and watched the effects of internal medicines, as purgatives and emetics, &c. must admit that much harm may be and is but too often done by an injudicious and profuse use of them, and that in the early stage of acute disease—particularly in gastro-intestinal inflammation, acute and chronic, patients get well as soon, if not sooner, without them; yet he must have found, that under particular circumstances in the same diseases, the most decided advantage may be derived from their employment; that by abstaining from them and relying exclusively in all stages on bleeding, leeches, gum water and the like, patients *wont* get well at all, or will do so but slowly. I will go even farther, and affirm that the unprejudiced practitioner must have found, that, in cases in which local inflammation is proved to exist, circumstances may render the administration of tonics, nourishing diet, &c. absolutely necessary. These are facts, the truth of which the disciples of the physiological school in general positively refuse to admit.

Emetics and cathartics, they affirm, are little better than real poisons, which should be carefully avoided in fevers and other diseases whenever the gastro-intestinal organs are in a state of irritation. This incendiary or Brunonian practice, as they often style it, is indeed reprobated by them in the sharpest terms. If cases are cited to them, too well authenticated to be doubted, in which these medicines have proved advantageous, they still maintain that it was contrary to reason and to the principles of a sound pathology to resort to them, since they are irritants, and the stomach and bowels are inflamed; that the benefit derived from them, in these instances, is accidental, and no more to be accounted for than any other freak of nature, who often amuses herself in puzzling us poor mortals; and that the physician, who administers such remedies in cases of the sort, acts on the principle of *kill* or *cure*, and cannot therefore foresee the result of his practice, which should on that account, were there no other reasons for doing so, be reprobated by all physiological physicians.

I have, indeed, heard some of the most *outré* among these affirm, on no other grounds than the above, that were it even shown that a large majority of fevers and other gastro-enteric inflammations recovered under the use of emetics and purgatives, it would be the duty of physicians to abandon the practice! One is really reminded, when listening to these arguments, of Moliere's doctor, who maintained that although an emetic would very probably have cured his patient, he was in honour bound not to use it, because HIPPOCRATES had said that emetics were not proper in similar cases. It is evident that all this arises, not so much from an experience of the danger and injurious effects of these medicines, as from the peculiar views the physiological school have adopted of their modus operandi; for it is not probable that physicians in all countries have been erring, during so many centuries, on the subject of the innocuity and utility of emetics and purgatives in fevers and other diseases depending on gastro-intestinal irritation; and that it was reserved for this school suddenly to discover that such medicines are fatally injurious in these cases. It is more probable, I repeat, that their aversion to internal remedies, in these classes of maladies, arises from their peculiar theories of their mode of operating. Refusing, as they do, to admit that something more than mere stimulation or sedation is necessary to cure disease; maintaining at the same time (though in opposition to their own admission of the existence of specific irritations), that medicines act simply by irritating the tissues on which they are applied, producing there a revulsive action, or by exciting sympathetic irritations in other organs (and in this case there is always a revulsion produced); finding some difficulty in reconciling such notions with the beneficial effects affirmed by others to have been obtained from the medicines in question in diseases they believe to depend on inflammation of the organ destined to receive the first impression of these remedies; they think it more simple to deny the truth of all that has been and continues to be said on the subject by the most respectable authorities in medicine, than to make the experiment themselves. But such a trial might endanger some of the axioms of the physiological doctrine, and, as you know, it is disagreeable to be compelled to modify favourite theories! I shall never forget the countenance of one of these gentlemen, not the most bright it is true, but well trained in the views of his school, when I asked him the other day, whether he did not think that a remedy, though an irritant, could modify or change the action of a diseased part in such a way as to promote its cure; and whether the quantity of fluid evacuated by saline purgatives might help not only greatly to counteract the stimulus of the medicine, but produce a beneficial effect in diminishing the intensity of a gastro-enteric irritation. He stared at me in apparent astonishment, that a man who had some pretensions to common sense, could venture, on such a nonsensical question; and answered that he could not comprehend such a power of *changing* action; that even supposing the action was changed, there would nevertheless remain an irritation that would probably be just as dangerous as the former; and that as regards purgatives, whatever quantity of fluid they may evacuate, he must continue to view them as improper in such cases; because they are irritants, and irritants are not admissible in irritations!

But M. Broussais's objection to purgatives, emetics, &c. is not limited to their use in fevers, and other diseases depending on, or attended with, gastro-intestinal irritation; for he appears to regard them as seldom appropriate (though some of his pupils do) in cases unattended with such irritation, from the fear of bringing it on, or exciting by sympathy the affection of other organs. He thus deprives himself of a valuable auxiliary means of depletion and revulsion.

As regards the necessity or advantage of administering tonics and nourishing diet to patients affected with inflammations, they hold it as exceedingly questionable. Hence few of them resort to this practice, and patients are often seen sinking for want of stimulus and nourishment, who are allowed only gum water, ptisans, &c. because they have an inflammation in some parts of their body, and it would be adding fuel to the fire to administer stimulating medicines. Even external stimuli, as blisters, sinapisms, &c. are, by some, carefully avoided in such cases, because they think, that, owing to the intimate sympathy existing between the skin and internal organs, there might be some danger of aggravating the existing disease. And yet facts are not wanting to prove that this method may be resorted to in such cases with the most decided advantage, not perhaps with a view of curing the inflammation, but of keeping up the strength of the patient while the disease is cured by other means, or by the efforts of nature.

All this, you must allow, is bad philosophy, and affords us an example of the disadvantage of theories carried to extremes. Would it not be much more rational to admit the facts I have alluded to, and candidly confess, at once, we cannot explain them, than to deny them in opposition to three-fourths of the members of our profession, merely because they clash with our views of the modus operandi of medicines, and of the nature of diseases. However disposed we may be to adopt, as well founded, the general principles of M. Broussais's pathological doctrine, we cannot refuse, in opposition to the evidence of our senses, to admit that medicines, possessing irritating qualities, do not *all* produce the same kind of action,—that irritation is not in all cases identical in its nature,—that some of the former may be serviceable in changing the action of certain of these irritations, while others would prove injurious; and, finally, that the same remedy would, in its turn, occasion a detrimental effect in other irritations. All these are facts which experience reveals to us every day, and which we are bound to admit, however difficult it may be to reconcile them with our previous notions respecting the nature of disease, and the modus operandi of medicines.

Calomel, in particular, appears in their eyes a dreadful instrument of destruction, and they shrug their shoulders with an air of pity and surprise, when reminded of the large doses in which the medicine is prescribed by English and American physicians. The success obtained by the latter with this *poison* annoys them dreadfully, and it is sometimes amusing to hear the reasons they allege in explanation of it. I recollect being once in argument on the subject of the treatment of fevers, with a gentleman who is of some weight among the partisans of the physiological doctrine, and telling him I had often seen in my own practice, as in that of some of my medical friends, the red, dry, hard, narrow, and pointed tongue of gastro-enteric inflammations become pale, moist, soft, and flat, after a good dose of calomel. He was of course too polite to deny the truth of a fact so positively affirmed, and contented himself with remarking, that, from all he had been able to see and hear, he was inclined to think that *our calomel is different from that made use of in France!!*

Another example of their prejudices against certain medicines is to be found in their declamations against tartar emetic, which, agreeably to them, is a still more fearful poison than calomel. The chief exclaims, and all the followers repeat, that this remedy being a violent irritant, should never be used, even in small doses, in fevers, as it will inevitably aggravate the gastro-intestinal inflammation. The testimony of Fordyce, and other such men, goes for nothing with them; and I have no doubt there are many among the disciples of this school who have never tried the practice, and would on no account try it, merely because they have been taught that the article in question cannot help being injurious. But they even go further than this, and maintain, that as tartar emetic, when applied to the healthy mucous membrane of the stomach, *may*, like any other stimulant, produce inflammation, it should never be resorted to even in diseases in which this membrane remains free from inflammation. Hence they proscribe its use in pneumonia, rheumatism, &c. and very unceremoniously style the Italian physicians assassins, for pushing this practice to the extent they do. Even in croup, they condemn vomits of tartar emetic, and you will find by reading DESRUELLES's work on the hooping cough, that the physiological physicians do not think much more advantageously of that remedy, either in large or small doses, in this disease, and proscribing without exception, at the same time, the various remedies recommended in its treatment, limit themselves, as indeed they do in croup, to leeches, gum water, and emollient ptisans, &c. and sometimes to the lancet. This is carrying prejudice rather too far, and cannot give a very favourable opinion of the impartiality of this class of physicians.

It would be too tedious to enumerate here, in detail, all the classes of remedies—all the articles of the materia medica, against the use of which they have entered their protest. It will be sufficient to remark, on this subject, that purgatives and emetics are in most, if not in all cases, proscribed; that tonics and stimuli are thought to be seldom admissible; that diuretics, astringents, balsams, expectorants, and antispasmodics are regarded as useless—often highly injurious, even in the very cases in which they are resorted to with proclaimed advantage by highly respectable practitioners; that, except under rare circumstances, blisters and external stimuli themselves are not employed;—in a word, that this class of physicians, who pompously proclaim that facts are every thing for them, reject thousands of facts tending to show the efficacy of these remedies, and from a fear of producing or aggravating a gastro-enteritic irritation, have, as it were, limited their therapeutical means to the lancet, leeches, gum water, and the like.

From all I have said of the practice of physiological physicians generally, you will readily perceive, that when carried to the fullest extent, as is done by some of the most zealous disciples of BROUSSAIS, it cannot be regarded, by an impartial observer, as much preferable on the whole to the practice of other classes of physicians here. So far indeed from conceding to it the claim to superiority so clamorously demanded for it by its partisans, I am inclined to think that while in the hands of a prudent and experienced physician, it may, in general, be productive of the happiest results; in those of young enthusiasts it may do, and has actually done, more harm than good;—much more injury, indeed, than the other systems of practice. Nor ought this to excite our astonishment: sallying forth armed with a lancet, leeches, and gum water; and perceiving always an inflammation which must be attacked boldly, and pursued without remission; unguided, moreover, in their use of these means by experience, which always tends, as you know, to moderate enthusiasm and boldness of practice, they go on bleeding, leeching, and giving their demulcents, until the patient is exhausted; and then, from their prejudices against all modifying agents, as well as against those calculated to keep up strength, they leave the rest to nature. But this often unfortunately occurs when nature is no longer adequate to the task of getting rid of the disease, and the patient sinks a victim to theoretical views, and to prejudices carried to an unjustifiable extent. It will strike you immediately that one of the principal differences between the method of practice I am examining, and that of the Pinelian school, in acute diseases, is, that the disciples of the *doctrine physiologique* leech and bleed a great deal in the first stage, and do nothing, or very little, in the last; whilst the others, on the contrary, do very little in the commencement, but occasionally resort, in the subsequent stages, to evacuants, and later to something calculated to keep up the strength of the patient. 2. That in chronic maladies the former pursue the same treatment, leeching, however, with more moderation; while the others, from their idea of debility as the frequent cause of these complaints, often administer tonics and a substantial diet.

It is but justice to the celebrated chief of the physiological school, and to some of his principal followers, to remark here, that in their hands the practice is far from proving as injurious as one would perhaps be led to infer from the preceding remarks. These do not apply so much to them as to their less reasonable and less prudent followers; many of whom, it is said, commit great havoc in the departments in which they reside, and are indeed, as I infer from the writings of some of them, and from the reports of others, greater Broussaians than BROUSSAIS himself. As I intend to offer you, in a future communication, some observations on this remarkable individual, as an author, a teacher, a practitioner, &c. I shall not anticipate here what I have to say on that occasion.

But although, in the preceding pages, I have endeavoured to discriminate the good from the bad in the practice of the physiological physicians, I fear you will still accuse me of contradiction; of praising and censuring it in the same breath, without coming to any positive conclusion as regards its merits. With a view of guarding against this accusation, I will briefly recapitulate my opinion on the subject. It appears to me, 1st, that BROUSSAIS has very much improved the practice in many diseases, as fevers, gastro-intestinal irritations, and chronic inflammations generally. 2d, That the treatment he recommends in the former, although meeting the indications admirably in their first stage, does not always do so well in the subsequent ones. 3d, That, as regards the treatment of acute inflammation of parenchymatous and serous textures, he has not added a single new fact to those already known, since the advantage of an active antiphlogistic treatment was known long before him, and was even more successfully resorted to by English and American physicians. 4th, That in showing the uselessness and danger of certain internal remedies in diseases attended with gastro-intestinal irritation, and even in some unattended with these, he has rendered a service to practice. But that his censure is applicable to the abuse and untimed employment of these remedies, rather than to a judicious and moderate use of them. 5th, That he proscribes too indiscriminately, and without sufficient grounds, the use of emetics, purgatives, &c. which have been, and are daily, found useful by other practitioners in shortening the duration of many diseases. 6th, And, finally, that the practice of the physiological school; though superior in many respects to the *methode expectante* of the Pinelian school,—though more rational in general than other methods in use in Europe and America; is not free from defects, and consequently not entitled to the praise of superlative excellence claimed for it by **Broussais** and his followers.

As I have already told you, the third class of physicians to which I am to call your attention, is composed of the *eclectics*, or anatomo-pathologists. **Laennec** may, I believe, be regarded as the founder of this sect, or at least as one of its earliest and certainly most able supporters. Since the death of this distinguished morbid anatomist, Drs **Cayol** and **Chomel**, both professors of clinical medicine in the school of Paris, are considered as its principal and warmest advocates. As you no doubt already know, these physicians have acquired considerable renown for the zeal with which they have prosecuted the study of morbid anatomy, and have contributed in a distinguished manner to carry this science to the degree of perfection it has attained. They are indeed, in my opinion, more entitled to credit for this than for any thing they have done in pathology. Opposing in a decided manner the principles of the physiological school, they affect to have no doctrine peculiar to themselves, and consider it more rational to cull a little from all those that have preceded, as well as from some of the modern ones. Thus we find them at one time speaking of essential fevers, of depraved humours, of the vital properties, of *vices*, of diathesis; at another of inflammation and its consequences; of morbid textural alterations, depending on, and again of others of a sui generis character, and totally independent of inflammation. Their great hobby, however,—one to which they have but too often sacrificed a more important object,—practice, is the description of these alterations, many shades of which they have construed into so many distinct diseases, governed by different laws, and requiring often a different method of treatment.

That this is not an exaggeration may be easily ascertained by consulting the writings of **Laennec**; for you will there find, that the portion devoted to post mortem examinations is by far greater than that occupied by the details of treatment, and that he describes, as distinct diseases of the lungs, a variety of morbid alterations, which, by many pathologists, are regarded, on the contrary, as the results of one cause, inflammation, or more properly as the consequence of varieties of irritation. Thus with him tubercles, gangrene, emphysema of the lungs, apoplexy of the same organ, hemoptysis, cancer, &c. are nothing more than tubercles, gangrene, &c. They are viewed as separate affections, and the important part which inflammation plays in the production of these morbid states of these textural alterations, appears to be totally disregarded.

It is but justice to remark, however, that none of these physicians pretend to affirm that these textural alterations have sprouted up without a *cause;* but of this, which they suppose must be different in each kind of alteration, they affect to know nothing; so that they have no grounds upon which to base their practice, unless it be the symptoms indicating the existence of the former. Nor is it less certain that physiology is not viewed by them as the best guide, in the explanation of pathological phenomena. There are not wanting some among them, indeed, who maintain that this science is distinct from, and of no service in pathology.

These views necessarily influence the practice of the eclectics, and lead them to adopt a rather strange, irrational, and often unsafe method of treatment. This is not difficult to understand. Culling a little, as we have seen, from every pathological doctrine, maintaining, at the same time, that most of the shades of morbid textural alteration they have described, constitute separate and very distinct diseases, requiring each an appropriate treatment, and willing moreover to make trial of every remedy, or plan of treatment, recommended by their medical brethren (with the exception, however, of the *medecins physiologiques*), their practice necessarily presents a queer assemblage of all sorts of methods; is often irrational, since it is not always based on broad and correct principles; and is applied in many cases to what other physicians very properly regard rather as the effect of the disease, than the disease itself, which consists in the change of the vital properties,—the irritation or inflammation; the general or common cause, call it whatever you please, without which these alterations would never have taken place.

A moment's reflection, will, I am convinced, show you, that I am not wrong in saying, that the practice resulting from the pathological views of those physicians may prove dangerous. Disease exists in an organ long before textural alteration takes place in it; and if we wait, as they generally do, until this alteration occurs, before characterizing the nature of the affection, and establishing our curative indications, we shall lose the most precious time, and often begin to apply what we would think the proper treatment when every chance of a favourable termination has disappeared. In the interval between the attack and the full manifestation of the disease, we should be forced either to remain idle spectators of the phenomena that present themselves,—to quack with a view of giving ourselves an appearance of doing something, or to treat and abate the violence of the symptoms. This is precisely what most of the eclectics are often obliged to do, and notwithstanding the authority of some respectable physicians, I cannot help thinking that neither of these plans is as well calculated to ensure success, as the one that consists in ascertaining at once the seat of the disease, discovering, if possible, the cause of the derangement, and applying our remedies to its removal. In this way the complaint is often eradicated from the onset, and the formation of organic alterations effectually prevented.

In addition to this it must be remarked, that in the treatment of their *diseases*, when these are fully developed, the eclectics are reduced to the necessity of acting as empirics—to try remedies that experience has taught them to have been beneficial in similar cases; or which from analogy they are led to employ; since it is not the cause productive of the textural alteration they wish to combat, for they affect not to care about it, but this alteration itself. At other times, adopting the notion of the essentiality and general diffusion, without local cause, of certain diseases, of diathesis, vices, &c. they direct their remedies against the disease or whole group of symptoms, and are again here obliged to treat symptoms, and practise empirically.

From their peculiar views of the nature of disease, and perhaps, from a rather illiberal feeling towards the school of BROUSSAIS, they often, in the administration of remedies, disregard the signs of gastric or enteritic irritation, or indeed, the condition of all of the organs, except the one in which their *disease* is seated. They sometimes go so far as to refuse to believe that the signs presented as indicative of the existence of such irritations are to be relied upon, and are even known to deny that the redness found in the stomach and bowels previously affected, point out that inflammation existed, unless this redness be accompanied with ulceration, thickenings, &c. It frequently happens, therefore, that the stomach and bowels are made to sustain the impression of active remedies, with as little ceremony as if they were inert and lifeless sacks; when other physicians, from the derangement of these organs, would fear to resort to such means.

As practitioners, they are, in general, less timid and inert than the disciples of PINEL; believing more in the power of medicine, and having less confidence in that of nature. On the other hand, except in cases of undeniable and well defined inflammation of the serous and parenchymatous textures, they are less active and bold in the use of the lancet, leeches, &c. than the second class we have noticed; because they do not believe, like these, that irritation or inflammation is the cause of the greater number of forms of morbid derangements, and should be on this account the principal object of the physician's attention. Refusing to admit, with the school of BROUSSAIS, that inflammation or irritation of the mucous membrane of the stomach and bowels plays an important part, either in a primary or secondary manner, in a majority of our complaints;—refusing also to admit the existence of irritation of these parts in cases in which it appears glaring to other practitioners, or to recognise any irritating qualities in some articles of the materia medica, long reputed to possess them, and not deterred from using them, even when they are convinced of their irritating properties, and of the presence of irritation, they prescribe internal medicines much more freely than the other classes of physicians here; yet much less so than the English, Italians, or Americans. The principles on which they prescribe these remedies, are not always those on which the former or we resort to them. Taking purgatives as an example, it will be found, that they do not wait in order to give them, as do PINEL and his school, for the subsidence of the excitement, or the appearance of a crisis; that they do not regard these medicines, with BROUSSAIS and his followers, as incendiary agents, which should always be abstained from, except as revulsives, when the gastro-intestinal mucous surface is quite free from irritation; that they seldom give them, as either the English and Americans do, to change and diminish action; but that their only object in using these articles is simply to evacuate the bowels, or produce some imaginary specific effect on the disease. I have known some of these physicians resort to particular remedies in particular disorders, and, like empirics, appear to be influenced in their use by no other motive than a desire to counteract the *disease* by the specific virtues of the article. In such cases, the peculiar modifications occasioned by the latter in the vital properties of the organ affected and of the part which is to receive the first impression of the medicine, were seldom taken into consideration. I once saw calomel used in this way by a physician, held here in very high repute, and who may be regarded as one of the eclectics. The disease was some irritation of the head, arising, as I thought, against the opinion of the doctor, however, from a derangement of the gastro-intestinal organs. He prescribed a few grains of calomel, and remarked that he did so because he had found this remedy very serviceable in such cases. As I was pretty well acquainted with him, I took the liberty of asking, in what manner he thought it acted? "Never mind the manner," he replied, "all that I think it necessary to know is, that calomel is a good remedy in such cases." I saw other medical gentlemen of the same sect prescribe, under a variety of circumstances, several articles of considerable power, and it did not appear to me they were guided in their use by any other principle.

I have said that the physicians of this class, though less timid in the administration of internal remedies than the disciples of PINEL, and less averse to them, from pathological views, than BROUSSAIS and his followers, were, nevertheless, far from prescribing them with the freedom of our own and of English practitioners. I ought to have remarked at the same time, that exceptions to this occasionally present themselves. It sometimes happens, for example, that all of a sudden they become bold in the extreme; prescribing, even from the commencement of the attack, very large doses of the most drastic and active medicines. LAENNEC, in his mania for eclecticism, adopted some of the views of the Rasorians about *tolerance* of action, and the contra stimulant effect of certain articles. In accordance with these notions, he prescribed tartar emetic in pulmonic inflammation agreeably to the method of RASORI, and loudly proclaimed the advantage of this practice. Whether, or not, it succeeded as well as he pretended, or as others who have followed his example continue to pretend, I cannot decide, from actual observation. All I can tell you is, that many impartial members of the profession here, attach very little credence to the miraculous cures which LAENNEC affirmed he had effected in this way, and I am inclined to unite with them in this scepticism; because LAENNEC's *bonne foi médicale* does not appear to have been any of the best;

and because it is reasonable to suppose, that prescribing this active medicine, as he did, without due regard to the condition of the stomach and bowels, it may have proved useful in some cases, but is likely not only to have failed, but to have produced highly injurious effects in others.

But I have already said enough of the eclectics, to give you an idea of their practice, and to convince you, that whatever services they may have rendered to the science of morbid anatomy, we can not, with justice, allow them credit for any improvement in the treatment of disease. At the risk of being accused of prejudice, I will say, that so far from conceding any praise to them, I am of opinion, as I have already told you, that it is among them we are to look for the most irrational and unsuccessful practitioners of this country. I beg you to bear in mind, however, that this censure extends only to the most *outré* among the physicians of this class. Among the more reasonable, we may find very good practitioners, who have felt the folly of paying so great an attention to post mortem examinations, and so little to the effects of therapeutical agents. Some of the late journals contain several good articles on this subject, and I have little doubt, that before long the practical views of the eclectics will be greatly and beneficially modified.

The fourth class, to which I am to call your attention, is composed of the symptomatists. Of these, there are in this, as in every country, a considerable number, and like all other physicians of the same kind, in whatever place they may be found, they should be considered as occupying but a low grade in the scale of professional merit. They differ so little from their brethren in other parts of the world, with some of whom, you must, doubtless, be acquainted, that there is no necessity for offering you here a detailed account of their method of practice. All that needs be said on this subject is, that fortunately for their patients, they are less bold and energetic, and consequently interfere less with the curative powers of nature, than physicians of the same class in England and America. Besides these classes, another might perhaps be formed of a set of physicians, difficult to define, and of whom, I believe we have, heaven be praised, but few examples in America. They may be justly denominated theoretical quacks, as they are continually creating the most visionary pathological speculations, and applying remedies in a manner, which to them may appear most rational, but is regarded in a very different light by every reasonable member of the profession. Of all the sources of amusement, which this vast metropolis has afforded me, I do not hesitate to regard the lectures, clinical observations, professional conversation, and method of practice of some of these gentlemen, as being among the greatest. Whenever, indeed, I felt disposed to have a hearty laugh, I tried to find out one of them, and either follow his practice or engage in medical discussion with him. A professor of clinical medicine here, who has lately made some noise on account of his attachment to a proscribed religious order, offers daily in his lectures and visits at the Hôtel-Dieu, the fairest specimen of this class of physicians, which, fortunately for the public, and the dignity of the profession, is very limited in number, and does not seem likely to increase.

In the preceding observations on the principal classes into which I have found it expedient, for the elucidation of my subject, to divide French practitioners, I had in view only the extremes of each class —those who carry their theoretical and practical views to the fullest extent. I shall not probably astonish you by stating, that the number of these is large; for you are as well aware as myself, that by the natural bent of their character, the French are generally disposed to exaggerate every opinion they adopt. These medical ultras are principally found, however, among the younger members of the profession, who are more easily than others carried away by their imagination, and their enthusiastic devotion to the views of a favourite teacher. As age advances, this warmth becomes gradually more moderate, and clinical experience soon points out to them the necessity of modifying, sometimes to considerable extent, many practical, to say nothing of theoretical, views which they had before regarded as established on the firmest basis, and of adopting others which they had long considered as reprehensible in the extreme. I have had occasion to know some of these more moderate physicians, and found them, in general, zealous and laborious in the pursuit of medical knowledge, and willing to receive light from whatever source it came. They appreciate fully the advantages, prosecute with zeal the study, but do not exaggerate the utility of morbid anatomy;—condemn the empirical method of practice pursued by the eclectics, and although refusing to adopt some of the principles, pathological and practical, and discarding many of the prejudices, already noticed, of the physiological school, may be ranked among its more enlightened disciples. It is, doubtless, among these physicians I would look for the cream of French practitioners; for ultraism on every subject, and particularly in medicine, is always a fit matter for censure, and should be carefully avoided by the philosophical physician; who, though aware of the importance of principles in the science he cultivates, knows that no doctrine, and no method of practice founded on any doctrine hitherto offered to the meditation of the medical world, is so free from error, so perfect in all its parts, as to be entitled to unqualified approbation.

As the physicians, to whom I have just alluded, while they approach in opinion, on some points of theory and practice, to those included in the principal classes I have described to you, differ on other points from each of these; they ought, perhaps, on that account, to be regarded as constituting a separate class of practitioners, and to require as such a particular notice. Yet as it is easy, after all I have said of the practice of each class, to form an idea of a method resulting from a judicious selection from each of the others, I think it unnecessary to enter here into any details on the subject.

With a view of completing this sketch of French practice, it is necessary to add, that the number of Brunonians in this country is very limited, and that those who have adopted the doctrine and method of practice of the Scotch reformer, have, with few exceptions, found it necessary to modify both very materially; that the disciples of the doctrine of *elements*, as taught by the former faculty of Montpellier, are also circumscribed in number; that genuine humoralists have nearly disappeared from the country; that few, if any physicians have adopted to full extent the new Italian doctrine, and become thorough contrastimulists in practice; and that, so far as my information extends, there cannot be found in France a single physician of respectable standing, who can be called an Homoœpathist.

From all the remarks I have offered in the preceding pages on French practice, it results, that taking it as a whole, it is not entitled, as I have already said, to the unbounded praise lavished upon it by the French themselves; that I regard it, on the contrary, as failing in one respect—rather too much timidity in acute diseases; a timidity that does not appear to me justified by the character of the diseases of this country or the constitution of its inhabitants, and is even shown to be censurable by the more favourable results of the practice of English and American physicians in the same class of diseases; 2d, that, while admitting this, it does not appear to me less evident, this practice is far from meriting the indiscriminate censure it encounters from foreigners generally;—that, so far from this, I consider it much more rational, judicious, and I believe successful in many diseases, as fevers, chronic maladies, &c. than some methods I could cite, and which are regarded by many even of our own physicians, as decidedly superior.

But whatever difference may be found between the methods of practice of the various classes of French physicians; whatever opinion may be entertained of these as practitioners, it is a justice due to them to say, that they are, for the most part, more extensively informed in their profession than is usually supposed. I have no hesitation, indeed, in expressing here my conviction, that in France, the majority of regular bred physicians are more thoroughly acquainted with the various branches of medical knowledge, than some individuals, who, in other countries I could mention, have the pretension of regarding themselves as entitled to an unusual share of credit for their professional learning. It is not unusual, for example, to find in other parts of Europe, and in our own country, physicians in large practice, who, independently of having but a scanty knowledge of physiology and pathology, are exceedingly deficient in botany, chemistry, natural philosophy, &c.—who, in a word, are little more than clever routine practitioners. Such a deficiency of instruction is but seldom, I believe I am safe in saying, never found here in the higher ranks of physicians. So far indeed is it from being the case, that I have found many more of such as are *remarkably* informed in those branches, than of those that are only tolerably so. Even among what may be called the secondary orders of professional men here, a very respectable degree of knowledge in these branches is almost universally found. If exceptions to this rule are discovered, they are but few, and mostly occur in the persons of old military surgeons, who, by a regulation of the faculties, are allowed to make up by years of service in the army, what they wanted in years of attendance at the lectures. Nor ought this greater diffusion of professional knowledge in this country to astonish us, since the laws of the schools make it obligatory on candidates to study more branches than is done in some other universities of Europe, and in our own schools, whilst, after this period, the natural avidity of the French after instruction, their facility in acquiring knowledge, and their power of retaining it when it is once acquired, contribute effectually to insure this effect. The only reproach that can be made against French physicians, is of limiting their reading to the works of their countrymen, and as a consequence of knowing little or nothing of what is going on elsewhere. This arises from an unfortunate idea, too prevalent among the French generally, that nothing good is to be found out of their own country, as well as from the limited progress they have as yet made in the study of foreign languages. A taste for these is, however, gaining ground, at least in the large cities, and will, I have no doubt, tend before long to diminish this extraordinary and unfounded idea of universal superiority, and be productive of the most beneficial consequences to the science and practice of medicine.

The labour which, with few exceptions, the members of the profession here, high and low, daily perform; the zeal and industry they manifest in the attainment of scientific knowledge may really be a matter of astonishment to those who witness it. Of all the nations of Europe, the Germans alone can be cited as more industrious than the French, and no others can pretend to equal these. The most zealous and hard working in England, and in our own country, must, in comparison with them appear very indolent. Where, for example, could we hope to find there, or with us, a physician or surgeon, who, after attaining, like M. DUPUYTREN, the highest degree of eminence in the profession, will be willing to pay, as he does, a daily visit at the hospital, at seven o'clock of the morning in winter,—remain there prescribing, lecturing, operating during four or five hours, and all for the information he derives, and the honour of the situation; since the emoluments he receives can not be considered as a compensation for the time he consumes there, and which, were gain his principal object, might be employed in a more profitable way. I have seen M. LISFRANC walk, this winter, to *La Pitié*, which is situated several miles from his house, long before seven o'clock of the morning, when I could hardly get there at eight—visit his patients, and lecture by candle-light! You must not imagine, however, that after thus rising and going through an arduous duty so early in the morning, they indulge in a little rest in the course of the day. No! they return home, eat breakfast, attend to their private practice until dinner time (five or six o'clock), and then read and write until a late hour. The next day they go through the same routine of business, and so on all the year round. The English, as well as ourselves, take it more leisurely.

Analytical Reviews.

ARTICLE X.—*De la percussion médiate et des signes obtenus a l'aide de ce nouveau moyen d'exploration, dans les maladies des organes thoraciques et abdominaux. Par* P. A. PIORRY, D.M., *&c. Paris*, 1828, 8*vo. Pp.* 356.

On Mediate Percussion, and the Indications obtained by Means of this New Method of Exploration, in the Diseases of the Thoracic and Abdominal Organs. By P. A. PIORRY, M.D. *&c.*

> "Un organe étant donné, chercher a determiner pendant la vie sa disposition physique."

In many diseases of the internal organs, especially those of a chronic character, much difficulty is frequently experienced in forming an accurate diagnosis. The symptoms depending upon a disturbance of function are, in these cases, generally of little value, and not unfrequently are entirely fallacious. Under such circumstances, to assist the practitioner in his attempts to arrive at a correct judgment, by enabling him to ascertain the actual condition of the organs presumed to be affected, many procedures have been suggested. AUENBRUGGER was the first, we believe, who proposed the employment of percussion as a means of diagnosis in the diseases of the thoracic cavity. His treatise, "Inventum novum ex percussione thoracis humani," was published at Vienna in 1761. Although practised and recommended by STOLL, this method of exploration did not excite much attention, out of Germany, until the commencement of the present century, when CORVISART, by translating the treatise of AUENBRUGGER into French, and by employing percussion extensively in his own practice, and recommending it in his lectures, directed to it more generally, the attention of the profession; while at the same time, he improved greatly the manner of employing it, and rendered more certain the indications it was calculated to impart.

The manner in which percussion has been heretofore performed, is by striking directly the surface of the body, in general with the ends of several fingers united. The particular sound produced by this means indicating the condition of the organ in the immediate vicinity of the part percussed. This mode of direct percussion is, however, confessedly of very limited application, and, in the majority of cases, the indications obtained from it are imperfect and obscure.

By the introduction of the stethoscope these defects of percussion, as a means of diagnosis, have in a great measure been supplied, and when the indications obtained by the former are compared with results of the latter, as practised by LAENNEC, it has been supposed that, so far as it relates to the exploration of the various morbid conditions of the thoracic viscera, as great a degree of certainty will be obtained as can possibly be expected.

M. PIORRY, the author of the volume, the title of which has been given above, believes, however, that percussion is capable of a much more extensive and useful application than is generally supposed; and that most, if not all the defects which have been ascribed to this means of exploration are attributable, chiefly, to the very imperfect manner in which it has heretofore been practised.

He proposes, in place of the direct percussion of an organ or cavity, to apply a thin plate of some firm and sonorous substance over the part to be examined, upon which intermediate substance the percussion is to be performed. He believes that he has ascertained, from repeated experiments and observation, that by this modification, all the inconveniences and deficiencies attributable to percussion as usually practised, are avoided; and that it may be employed with advantageous results in various cases, particularly of abdominal disease, to which direct percussion is totally inapplicable.

The substance, by the interposition of which this species of exploration is performed, M. PIORRY denominates a *plessimeter*[*]. He directs it to be formed of ivory or hard wood, of about a line in thickness, and differing in size according to the region of the body to be examined.

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[*] M. PIORRY derives plessimeter from πλησσω, I strike, and μετρον, a measure. We would rather say *plèximeter*, from πληξις, percussion.

The principal objects of the plessimeter are to augment and render more distinct the sounds produced in percussion, and to enable the latter to be practised under circumstances in which its direct employment is productive of no accurate results, or in which it can not be resorted to without suffering or danger to the patient.

As the diagnosis obtained by this means depends, almost exclusively upon the difference in the sound emitted by an organ or cavity in health or disease, it is evident, that to derive from it the information it is supposed to be capable of imparting, demands, in the first place, a perfect familiarity with the sounds emitted by each organ in a state of health, as well as an intimate acquaintance with the relative situation of the different viscera and the space they individually occupy. This knowledge can be obtained only by time and perseverance: by the repeated percussion of the different portions of the body during health and disease, and by testing the accuracy of our diagnosis in the latter case, by autopsical examinations, whenever the opportunity presents itself. The signs obtained by percussion being purely of a physical character, they can be studied equally well upon the dead as upon the living subject; the majority of our author's conclusions are in fact drawn from experiments performed upon the former.

To facilitate the study of the sounds emitted by the different organs during health, M. Piorry divides the trunk, anteriorly into seventeen regions, posteriorly into ten, and on each side into three. He has laid down, with great minuteness, the sounds obtained by the mediate percussion of each portion of these thirty-four regions, and the internal organs, the presence of which these sounds indicate. The space to which we are limited will not permit us to follow the author in these particulars; we refer our readers, therefore, to the fifth chapter of the volume before us:—a minute study of this portion of the work being absolutely necessary to all who are desirous of putting this method of diagnosis into practice.

In regard to the rules to be followed in the employment of the plessimeter, the following only need be noticed here, the remainder being deferred until we consider the exploration of the individual organs, when they will be better understood.

The position of the patient should vary according to the organ to be examined, and the nature of the disease under which he is supposed to labour. The body should not be laid upon too soft or too yielding a surface, and during percussion every species of noise in the neighbourhood is to be avoided. Frequently the position of the patient should remain unchanged during the continuance of the examination, while in other cases, as when we wish to ascertain the existence of a fluid or moveable body in one or other of the cavities, various attitudes should be assumed by him in succession.

Whenever the condition of the part to be percussed, and the state of the patient will permit, the plessimeter is to be applied upon the naked skin. Sometimes, to remove the inequalities existing in various regions, a portion of old linen or muslin should be placed beneath the instrument, and, in some cases, the clothing must be allowed to remain upon the breast, to guard the patient from exposure to cold. When we wish to judge of the sound emitted by a single organ, the plessimeter is to be held fixed in one spot; but when it is necessary to compare the sounds resulting from several organs, it should be lightly glided over the different regions to which these organs correspond. Under either circumstance, the instrument being steadily held with the left hand, percussion is to be performed with the extreme points of the opposite fingers. As the sound produced by the nails alters sensibly the results of percussion, these should be cut quite short. Percussion is practised sometimes with the index finger alone, and sometimes with two or even three fingers united; this is particularly the case when it is desirable to obtain sound from a large surface. The stroke should be sharp and quick; the finger being removed immediately from the plessimeter. The force employed must vary in proportion to the volume of sound requisite to be produced, the degree of sensibility of the part examined, and the size of the instrument employed. Though a single stroke is sufficient, it frequently is of advantage to execute several in succession, lest a first impression lead into error. In general, it will be proper, the better to judge of the kind of sound produced, to repeat the percussion several times, sometimes with more, and sometimes with less force.

The varieties of sound produced by mediate percussion are referable to the nature of the organ explored, the different conditions in which it is found, and the individual in whom the examination is made.

"The practical results of mediate percussion are derived less from the fundamental character of the sounds obtained, than from a comparison made between the sounds furnished by the different organs in the same individual. In one subject the cœcum will emit a much clearer sound than in another:—but in both, during health, we are not the less able to distinguish the cœcum from the small intestines; for from the former is obtained a sound much more tympanic than from the latter. The same observations are applicable to the other viscera.

"In general, the sound produced by the plessimeter varies, by being greater or less. The greatest sound is obtained from the largest and most hollow organs; those which contain the greatest quantity of gas, and are the most superficially located. The least sound corresponds to parts having very small cavities, those which are the most thick and dense, and are the deepest seated. The sound produced by the percussion of the stomach, the cœcum, and the cheeks distended with air, present an example of the first degree; while the percussion of the thigh and thick part of the arm, presents an example of the last. During disease, however, there are certain cases in which the sound produced may extend beyond these limits. Thus in peritoneal tympanitis, a sound is emitted much more clear than that which the stomach gives, when distended with gas; while the indistinctness (matité) of sound obtained from an extensive encephaloid or scirrhous tumour is more marked than that from the thigh or arm.

"Certain sounds produced by mediate percussion have often a very peculiar character, by which they are to be distinguished from the preceding. They may be arranged into three classes. The first are produced when the plessimeter is applied upon parts which are very hard, and of themselves sonorous, such as the bones. The tone of this is sharp (sec); an idea of this sound may be obtained by the percussion of the internal face of the tibia, or rather, the surface of the femur; in the latter case, however, the instrument must compress the muscles, in such a manner as to come very nearly in contact with the bone. The second class of sounds are of more importance, and consist in a tremor, or very peculiar oscillation, which has some resemblance to the metallic tinkling of LAENNEC. These sounds we may designate by the term humoral: more acute and harmonious than the former, they require more skill to distinguish them. These sounds are produced under the following circumstances: 1. When a hollow organ is half filled with gas and a liquid, as frequently occurs in the stomach. 2. When a hollow viscus with thin parietes is immersed in a fluid, as frequently occurs when in ascites the intestines are surrounded by the effused serosity. 3. When two hollow organs, the one containing a liquid and the other a gas, are in immediate contact. This occurs when the bladder filled with urine is in contact with the intestines distended with elastic fluids. 4. When air passes with difficulty through a narrow opening, into a cavity larger than that in which it had been contained. This appears to take place in certain tuberculous excavations. Most commonly, the humoral sound is recognised upon a level with those points at which a liquid and a gas are in contact.

Thus, it is the superior surface of liquids in the stomach, in contact with the gas contained in the same organ; the surface of the serosity in ascites, in contact with the intestines; and the points at which the latter and the bladder distended with urine touch each other, which emit the humoral sound. Finally, there is one other sound, much more singular, and which I have," remarks M. P. "but rarely observed; this it is impossible to express by words. It would seem to refer itself at the same time to the finger by which the percussion is made, and to the ear. The finger experiences a kind of elastic resistance, by which it is repelled many times in succession, while the ear detects a sound resembling the humoral, but differing from it in some respects. Every thing leads to the belief that this sound indicates the presence of a hydatid tumour."

The foregoing sounds, M. P. has attempted to express by particular names, and according to the following scale: 1. The femoral sound, produced by the mediate percussion of the thigh. 2. The jecoral, produced by percussion of the liver. 3. The cardial, produced by percussion of the heart. 4. The pulmonal, produced by percussion of the lungs. 5. The intestinal, produced by percussion of the small intestines. 6. The stomacal, produced by percussion of the stomach. 7. The ostial, produced by percussion of the bones. 8. The humoral, produced by percussion of the hollow organs filled with water and gas; and 9. The hydatid, produced by the percussion of a hydatid tumour.

Between the above, many intermediate sounds exist. Thus, a certain region of the body may emit a sound between the stomacal and intestinal; that is to say, the sound produced is less clear than that of the stomach filled with gas, but more tympanic than that of the small intestines. In some instances, however, when the sound emitted is said to be between two others, as between the intestinal and humoral, it indicates that the former sound is combined with the latter.

Passing from these preliminaries, which have already occupied us too long, we proceed next to consider the application of the plessimeter to the diagnosis of several of the morbid conditions of the intestinal viscera. In this portion of the treatise, M. P. has pursued the following order.

1. Anatomical observations in reference to the physical conditions of each organ and cavity, in health and disease, capable of being detected by mediate percussion.

2. Observations and experiments made during a healthy and dis-

eased condition of the system, and upon the dead body, with the view of recognising, a priori, these physical conditions.

3. Corollaries, deducible from the above.

4. The present condition of the science, in regard to the diagnosis of the physical lesions demonstrable by mediate percussion.

It is to the third of these divisions we shall be obliged principally to confine our analysis; to notice in a proper manner either of the others, would oblige us to extend the present article to an unreasonable length.

In the first part of the treatise is considered the application of mediate percussion to the diagnosis of the diseases of the thorax. Certain external affections of the chest are referred to in the first chapter, the nature of which may be detected by the use of the plessimeter, and others, the presence of which, while it renders direct percussion difficult, does not prevent the exploration of the internal organs, by means of this instrument. These we shall not stop to notice, but will pass at once to the plessimetric signs, indicative of the existence of a fluid effused within the cavity of the pleura, or, in other words, of hydro-thorax; our analysis, as we have already remarked, being confined to the general conclusions which M. P. has drawn from his experiments and observations, in regard to this subject.

When not encysted, or confined to one spot by adhesions of the pleura, the effused fluid in hydro-thorax will be found always at the most depending portion of the chest: most generally, if not always, a level line marks the surface of this fluid, and separates the portion of the cavity in which it is contained, from that in which no effusion is present. This level line is not, however, to be detected, when the fluid occupies the entire cavity of the pleura; "but here," observes M. P. "the extent of the obscure (mat) sound, is a very important sign in the acute stage, for it is very rare that peripneumonia extends over the whole lung."

At those points of the thorax where there exists, within the pleura, an effusion of inconsiderable extent, the sound emitted in percussion is not strictly obscure, but between that of the heart and of the lungs, approaching more or less to the first or second, in proportion to the amount of fluid effused: when the latter fills the whole cavity of the pleura, the sound obtained approaches to that of the liver. The sound of the latter organ presents, however, in general, a degree of obscurity more marked than any which occurs in hydro-thorax.

If the lung is healthy, the sound of the thorax above the effusion is similar to that emitted by the lung in a state of health. The level line, indicating the surface of the fluid within the pleura, is parallel to the axis of the trunk, if the patient is in a lying posture; and perpendicular to it, if he is erect. The sound is obscure posteriorly, and clear in front, if the patient lie on his back; and the reverse, if he lie on his face. When he is seated, the sound is obscure below, and clear above. The height to which the level line of surface of the effused fluid corresponds, being accurately determined by means of the plessimeter; with experience, and a reference to the capacity of the chest, a judgment may be formed of the amount of fluid contained in the pleura.

When the effusion is trifling in extent, it must be sought for, during life, at the back, on each side of the vertebral column; it will be useful to make this examination during various positions of the body. After death, as the engorgement of the posterior and inferior portions of the lungs causes an obscure sound to be emitted in every position of the subject, the existence of a small quantity of fluid cannot be detected.

" Many of the preceding corollaries," observes M. P. " deduced from the numerous experiments which I have made, are opposed to the opinions of professor LAENNEC. I should not have ventured to combat the opinions of this learned physician, whose lessons I claim it as an honour to have followed, had they not appeared to me to be contrary to all the facts which have come under my notice."

When the effusion within the pleura is circumscribed, we are informed that it is not easy to detect it by percussion, in whatever manner this may be performed. " It will, however, be possible," our author conceives, " to ascertain by the plessimeter, that a certain portion of the thorax emits a sound less clear than the rest, but as the part at which this obscurity of sound exists, does not vary with a change in the position of the patient, it cannot be determined merely from this obscurity of sound, whether the disease is seated in the lungs or pleura." The combination of the signs furnished by auscultation and by mediate percussion will, however, be of very great advantage in such cases.

Pneumo-thorax.—From experiments made upon the dead subject, M. PIORRY lays down the following signs, obtained by means of the plessimeter, as pathognomic of a collection of air within the cavity of the pleura.

The side of the thorax at which the disease is seated, will emit a tympanic sound, more or less clear, in proportion to the amount of air contained within the pleura; and very distinct from the pulmonal sound of the opposite side. In these cases, to avoid any mistake, it is necessary that we be able to determine the point at which the pleura terminates, and that at which the stomach commences; for it may happen that the latter, distended with gas, and rising very high towards the chest, may be mistaken for a case of pneumothorax. In this case, however, the anterior, posterior, and lateral pulmonary regions will furnish at their upper part a pulmonal sound, while in pneumo-thorax, a sound more tympanic will be observed throughout. "LAENNEC," observes M. P. "conceives it is true, that pneumo-thorax cannot be recognised by percussion alone; but all he says upon this subject has reference to direct percussion only; which latter, in the greatest number of cases, does not give the measure of the sound produced; mediate percussion, on the contrary, establishing a scale of gradation between the sounds emitted by organs varying in capacity, enables us, very readily, to detect the existence of pneumo-thorax upon the dead subject, and I can not see why it should not enable us to detect it also during life."

In *hydro-pneumo-thorax*, or where both air and serum are contained in the cavity of the pleura, there will be discovered by means of the plessimeter, inferior to the tympanic sound of simple pneumothorax, a sound between that of the heart and of the liver. This indistinctness of sound will exist below a level line, the direction of which changes with the attitude of the patient; the serum effused, always occupying the most depending portion of the cavity.

When adhesions of the pleura are complicated with effusion, M. P. conceives that this may be detected by the following plessimetric signs.

"1. When in a case of effusion within the pleura, the level of which has been ascertained, and its presence established by numerous changes in the position of the patient, a pulmonal sound is discovered at the depending portion of the thorax, and below the seat of effusion, in a space surrounded by the more indistinct sound of the fluid, we should infer that adhesion exists at this point, and that the lung is there healthy. 2. If in pneumo-thorax we recognise a pulmonal sound, in a circumscribed spot, surrounded by a tympanic sound, there is every reason to believe that the lung is fixed at this place, by an adhesion. The degree of obscurity in the sound, at its central part, will enable us to judge of the thickness and condition of this adhesion."

Our author considers next, (Chap. III.) the diseases of the lungs. These organs may be increased in density. This may be occasioned by a simple engorgement or infiltration taking place, during, or immediately after death; by inflammation; by a hemorrhagic infiltration (pulmonary apoplexy); by encysted tumours; and by tubercles. In regard to the indications obtained by the plessimeter, in each of these cases, the following are the result of the author's observations and experiments.

An obscure sound is in general discovered at those points at which the lung is more dense than in its normal condition. In cases of simple infiltration from death, the obscurity of the sound approaches very nearly to that emitted by the heart, and is detected in that portion of the lungs which after death is the most dependent. The difference between the healthy portions of the lung and those which are the seat of engorgement, takes place in general, along a line very nearly level, and the part at which the sound changes in character does not vary with the posture of the patient: this distinguishes it from hydro-thorax. In peripneumonia, most commonly, it is not merely towards the most dependent portion of the lungs, that a moderately obscure sound is detected; this is heard also at other parts of the thorax. When the inflammation is confined exclusively to the inferior portion of the lung, it very rarely occurs that its termination above forms a level surface; almost always, some points of inflamed lung rise above the others, forming an uneven line, which can be traced by means of the plessimeter. This circumstance, and a somewhat less degree of obscurity in the sound emitted, distinguishes inflammation from infiltration of the lungs, and from pulmomonary apoplexy.

An obscure sound being produced in percussion from above the clavicles and at the anterior pulmonary regions, the rest of the thorax, giving a pulmonal sound, is a very constant character of the existence of tubercles. Its correctness was tested by the result of more than twenty examinations after death. In these cases the obscurity of sound was very marked, approaching more perhaps to that of the liver than to that of the heart. We should not however forget, according to M. P. that hepatization of the superior lobes of the lungs is more frequent than has been commonly supposed.

A degree of sound a little less clear on one side than on the other, being constantly observed above and below the clavicles, should cause us to suspect the existence of numerous miliary tubercles. The whole of one side presenting a less clear sound than the other, or rather a marked difference of sound existing in different parts of one side, at the same time that the functional symptoms of peripneumonia are absent, is an indication of tubercles spread generally throughout the lung, and separated by a tissue more or less healthy. M. P. does not conceive it possible by mediate percussion to distinguish a large tuberculous mass from an encysted tumour. The presence at the same time of several of the preceding conditions, as the union of tubercles and simple infiltration, &c. can be recognized by the concurrence of the indications already laid down.

The lungs may be decreased in density, either by dilatation of the pulmonary cells, or by excavations occurring in the tissue of these organs.

At the point corresponding to a large, empty, and superficially seated excavation, surrounded by a portion of tuberculous or hepatized lung, which again is circumscribed by a healthy tissue, there is discovered, by means of the plessimeter, a tympanic sound proportioned in intensity to the dimensions of the excavation. The sound in these cases is most readily detected during a full inspiration. Surrounding the part at which the tympanic sound is emitted, we obtain a sound either cardial or jecoral, and beyond this a pulmonal sound. When large, empty, and superficial excavations are surrounded by the healthy pulmonary tissue, as in dilatation of the bronchia, there will probably be emitted by the point of the thorax corresponding to the vacuity a tympanic sound, and surrounding this a pulmonal sound.

When the excavation is extensive and deep seated, being covered with a healthy portion of the lung, a stomacal sound, mixed with that of the lung, will perhaps be heard at the spot corresponding to the vacuity. In this case, if the percussion be very lightly performed, a pure pulmonal sound should be emitted, but the tympanic sound indicative of the excavation should be heard when the percussion is practised with more force. When the excavation, however, is of little extent, the latter sound cannot be detected. When the cavity of the excavation is partly filled with a liquid and with gas, and there exists a fistulous communication between it and the bronchia, a humoral sound will be obtained, even when the cavity is deeply seated. In small excavations this sound may also be detected; its intensity being in proportion to their number and superficial position.

Combinations of a morbid condition of the lung with hydrothorax,

&c. may in certain cases be detected by the concurrence of the plessimetric signs proper to both diseases.

The *diseases of the heart and pericardium* are the subject of our author's fourth chapter. As he has been unable, in respect to these, to arrive at any certain conclusions so far as it regards the diagnosis to be derived from mediate percussion, we pass by without noticing this part of the work; recommending, however, a careful perusal of what M. P. has laid down as probable results of this mode of exploration in these diseases, to every one desirous of studying the use of the plessimeter.

The second part of the treatise comprises the diseases of the abdomen and of its viscera, the diagnoses of which mediate percussion is supposed greatly to facilitate.

Previously to considering the internal diseases of the abdomen, the following remarks are made in Chap. I. upon the means of detecting the contents of a hernial tumour by means of the plessimeter.

In order to determine whether it be the stomach, or the small or large intestines which forms the contents of a hernial tumour, it is to be recollected that the tympanic sound emitted by the latter in percussion, will be in proportion to the capacity of the hollow organ it contains.

"If it be suspected that the stomach is contained in a hernia, percussion of the latter should be practised during an empty condition of that organ; the sound will then be clear. The patient being now so placed that the tumour shall be more depending than the rest of the abdomen, the stomach being still empty, no alteration in the sound will be perceived. If the patient then, retaining the same attitude, drink a glass or two of water, and the sound subsequently emitted assume somewhat the humoral character, it will be evident that the stomach is included in the tumour."

To determine whether the large intestines compose the hernia, the water in place of being introduced into the stomach should be injected into the rectum.

"If the omentum, the uterus, or a kidney, be contained in the hernia, or if the latter inclose some accidental production, the tumour will give in percussion an obscure sound. A very obscure sound will be emitted by a sarcocele, as also, by a varicocele or epiplocele, while an enterocele will give a tympanic sound.

"If the bladder containing urine is within the hernia, a somewhat obscure sound will be detected previously to the urine being discharged. If intestine, also, be contained in the sac, after the expulsion of the urine, a clear sound will be obtained.

"If both serum and gas be contained in the hernial tumour, as may happen in cases of ascites; the first will be detected at the most dependent portion of the sac, having a level surface above; while the second will be found at the upper portion of the tumour. The positions of each varying with the different motions of the patient."

The succeeding chapter treats of mediate percussion as a means of diagnosis in the diseases of the peritoneum.

1. *Thickening of the peritoneum lining the abdominal muscles.* This thickening, produced in general by morbid productions developed upon one of the surfaces of the membrane, when to any extent, may be readily detected by mediate percussion. If a tumour, felt by the hand and superficially seated in a region which furnishes ordinarily a clear sound, emits in percussion a very obscure sound analogous to that of the liver, it may be pronounced to be of considerable thickness. If the sound, although obscure, still permits us to distinguish at some depth a clear sound, the size of the tumour is but moderate. Finally, it may be considered as very thin if the results of percussion are the same very nearly as they would be in a state of health.

2. The tumour may be considered to adhere to the parietes of the abdomen, if it does not vary with the different motions of the trunk.

3. If the sound the tumour emits in percussion be very sharp, and at the same time very obscure, it possesses considerable density. The reverse will be the case under opposite circumstances.

4. *Hydatid tumour.* "Some facts," observes M. Piorry, "which I have observed, induce me to believe, that the tremulous sound already alluded to, (see ante, p. 324), indicates the existence of a hydatid. The sensation experienced by the finger, and which accompanies the sound, may be accurately compared to that which is felt in striking a watch upon the side opposite to the crystal."

To determine the depth at which a tumour is seated within the abdomen by means of the plessimeter, the latter is to be applied lightly upon the abdominal parietes:—If the stomach or intestines are placed before the tumour, a stomacal or intestinal sound will now be emitted; which sound, when the instrument is pressed in one, two, or three inches, will be changed for that referable to the tumour. It is evident, therefore, that the latter is situated about the same number of inches within the cavity. By determining likewise the position occupied by each of the viscera, and that of the tumour, we may be able by mediate percussion, with tolerable accuracy, to ascertain the seat and relations of the latter.

"I am very far," remarks our author, "from thinking that mediate percussion ought to cause us to neglect the exploration of the tumours of the abdomen by palpation, pressure, fluctuation, &c. but I say that the plessimeter furnishes additional information which should not be overlooked."

The consideration of mediate percussion in reference to the diagnosis of simple ascites comes next in order. We believe that difficulty but rarely attends the detection of a serous effusion within the abdomen by the ordinary means; on this account, and to enable us to consider more fully the exploration of some of the abdominal viscera by means of the plessimeter, we shall not stop to notice the observations of our author under this head. A few words will, however, be proper upon the mode of determining by mediate percussion the existence of an encysted abdominal dropsy.

In this form of dropsy the tumour does not occupy always the lower part of the cavity, and if inferior to a portion of the intestines, still some folds of these will almost invariably be discovered below it. Ordinarily fixed, the tumour may, however, in certain cases, pass from right to left according to the position of the trunk upon one or other side. The portion of intestines pressed upon by the cyst will then be always found at the most dependent part. The tumour is bounded above by an irregular, rounded surface, superior to which will be found the stomach or intestines. The sound emitted in the percussion of the cyst is much more indistinct than that of ascites: having an analogy to the sound of the liver. When the parietes of the cyst are soft and compressible, it is never sharp or osteal. Sometimes from the whole of the abdomen corresponding to the tumour, and at others only from certain points of this space, an intestinal or stomacal sound is obtained, referable to the presence of certain portions of the digestive tube. In other cases the indistinct sound emitted in the percussion of the cyst is located within a space situated above all those portions of the abdomen which give a tympanic sound corresponding to the presence of the stomach or intestines.

If the hollow organs containing gas are situated above the tumour, it is not upon a level line that the transition from a clear to an obscure sound is discoverable. The change in the position of the patient, alternately from side to side, does not change the character of the sound obtained from the same points. If the parietes of the cyst are very thin, the fluid contained in it very clear, and its sides are in contact with folds of intestine, a humoral sound may be obtained. If the cyst be covered by a considerable portion of intestine, the depression of the plessimeter to a greater or less depth will enable us to detect an obscure sound from the upper part of the tumour. At its sides a tympanic sound will exist to a considerable depth.

When encysted dropsy of the abdomen and effusion without the peritoneum exist at the same time, the sound proper to the latter will vary its situation with the different positions of the body. The superior level of the effused fluid being recognized, above it will be found the intestinal tube. The tumour, whether fixed or moveable, will give an indistinct sound very different from the clear sound of the serum within the abdominal cavity. When the effusion is considerable and the cyst of sufficient volume to rise above the level of the fluid, the tympanic sound of the intestines may frequently be detected between those points which emit a clear and those which emit an obscure sound. When the intestines envelop the tumour, by depressing the former, the obscure sound of the tumour will be detected at a considerable depth. When the cyst is large and but little fluid is contained in the peritoneal cavity, the points corresponding to the intestines being first percussed, if the patient then incline to one side, the sound of the same points will continue unchanged; on the contrary, the sound becomes similar to that of ascites when any amount of serum exists within the abdomen.

We pass by the consideration of *pneumo-abdomen*, or the means of detecting by means of the plessimeter the existence of gas within the peritoneal cavity; which brings us to that division of the work which treats of the exploration of the abdominal viscera possessing a dense tissue; and first, of the liver.

The only diseases of this organ, to detect which M. PIORRY appears to have employed the plessimeter, are its hypertrophy, atrophy, and augmented density. The manner in which these changes in the liver are detected by mediate percussion is, the two first by the augmented or diminished space over which the jecoral sound extends itself; the last, by the augmented sharpness in the sound emitted by the whole liver, or by particular portions of it. It would appear to us, also, to be very easy to detect in certain cases, by mediate percussion, the existence of abscess of the liver.

The foregoing observations may be repeated in reference to the exploration of the spleen. The indications obtained by means of the plessimeter in the diseases of this organ do not, however, appear to be near so distinct as they are in reference to the morbid conditions of the former.

The next chapter treats of mediate percussion in the diseases of the *kidneys*. The limits proper to the spleen and liver being first ascertained and the stomach empty, we may determine, we are informed, by means of the plessimeter, the situation and size of the kidneys, as well during life as in the dead body. But a tumour in the neighbourhood, or occupying the place of one of these organs, cannot be distinguished from the kidney itself. To examine the kidneys properly, we should endeavour to lift up from them the liver and spleen, by causing an assistant to press the abdominal viscera upwards with his hands; the kidneys will then be circumscribed by folds of intestine, and will be easily recognized by percussion.

Whenever the extent of the space, over which the obscure sound proper to the kidneys is heard, corresponds to the size of these organs in health, we may infer that neither are in a state of hypertrophy; but if the sound be much more clear than in the normal condition; we have every reason to suspect that one or other is more or less atrophied. Our conclusions should be drawn from a careful comparison of the sounds emitted by both kidneys.

In case of a urinary tumour of one of the ureters, the results of mediate percussion will be the same as in an encysted tumour of the abdomen.

The next division of the work is devoted to the exploration of the hollow viscera of the abdomen capable in their normal condition of containing liquids. The first chapter treats of the gall bladder. The author has principally considered the method of determining its situation, and greater or less degree of fulness by means of the plessimeter; for his observations on these points we must refer to the work itself. In Chapter II. are given the plessimetric signs indicative of the seat, and greater or less degree of distention of the urinary bladder. The author states that he possesses no fact relative to mediate percussion in those cases, in which the bladder is the seat of organic lesions. But he is induced to believe "that a calculus of such a size and so situated as to be accessible to the plessimeter, would emit a sound more obscure and much more sharp than those to which the mediate percussion of the other parts of the organ would give rise."

Chap. III. treats of the exploration of the *uterus*. It is only in its impregnated state, or when enlarged, that the situation of this viscus can be detected by means of the plessimeter. The sound it emits in the former case approaches that of the liver. From what has been already said in regard to the method of employing mediate percussion, and the character of the indications it affords in reference to other organs, in connection with a knowledge of the relative situation of the pregnant uterus and the viscera of the abdomen, it will be easily understood in what manner we are enabled to detect the situation and size of the womb by means of the plessimeter; we shall only notice in relation to this organ the following observations of our author.

"In cases of pregnancy, arrived at the full term, the parietes of the uterus being soft and uncontracted, I have been able," he remarks, "to recognise by means of the plessimeter, the position of the fœtal head. In one instance the limits of the uterus having been properly determined by means of the instrument, I discovered on the right side, near its fundus, a very sharp sound, similar to that from a bone; in the other parts the sound was obscure, but very distinct from the preceding. This case was attended by a midwife; the feet of the child presented, and the head evidently corresponded to the point at which I had distinguished the osteal and obscure sound."

"If the intestines of the fœtus in utero contain gas, it will then be possible to determine whether the abdomen of the child corresponds to the anterior parietes of the abdomen."

In a case of internal hemorrhage, and when by palpation a too soft condition of the womb cannot be distinguished, the existence, as well as the extent of the hemorrhage, may be detected by mediate percussion. In such case the indistinct sound will extend over the greater part of the abdominal surface, corresponding to the space occupied by the dilated uterus. The extent of this space will enable us to judge of the amount of blood accumulated in the womb.

By a proper attention to the foregoing facts, M. Piorry conceives it impossible to confound either pregnancy or accumulation of fluid in the womb with ascites. When the latter disease is complicated with pregnancy, this will be detected by the combination of the plessimetric signs proper to ascites and to pregnancy.

M. Piorry next considers the mediate percussion of those organs which ordinarily contain gas; these are the stomach and intestines. Our limits permit only a very brief notice of this portion of the work.

If, when the individual lies upon his right side, the right portion of the space supposed to be occupied by the stomach gives a sound, the obscurity of which nearly resembles that from a cyst, the space over which this sound extends presenting a level surface above, there are strong reasons for believing that the stomach contains a fluid. If, when the examination is repeated on the left side, the same results are obtained, allowing for the different position of the stomach, this belief is confirmed. Further certainty may be obtained by causing the individual to be seated, and ascertaining that the same obscure sound is emitted by the most dependent part of the space supposed to be occupied by the stomach. The presence of the colon, much dilated and containing a fluid, may, however, give rise to the same phenomena as the stomach. M. Piorry believes this rarely to happen; the colon being seldom sufficiently distended, or containing a sufficient amount of fluid to emit a sound identical with that of the former organ. Even if such should be the case, any mistake he conceives may be obviated by determining first the presence of the stomacal sound at the points supposed to correspond to the stomach, and then causing the patient to drink a glass or two of water. Percussion should now be performed while the patient lies successively upon his face, back, and both sides; if the stomach is situated at the part presumed, the most depending portion of this will give an obscure sound, while along the surface of the fluid contained in the organ, a humoral sound will be perceived. If, on the contrary, the clear sound first heard be produced by the presence of any portion of the large intestines, the ingestion of fluids will not render it obscure. To avoid mistakes in our exploration of the stomach, it should be ascertained on the dead body how far the liver becomes displaced when the patient is laid upon his side. It must likewise be kept in mind that frequently the latter viscus extends considerably into the epigastric region, concealing in great part the stomach. In such cases the examination should be made principally on the left side.

The sound emitted by the stomach, greatly distended with liquids, is similar to that from an encysted tumour, or from the bladder distended with urine. When the stomach contains solid aliment, without any portion of gas, its sound approaches very nearly that of the liver, and it is with difficulty distinguished from the latter organ.

The plessimeter, in conjunction with palpation, will afford very important information in those cases in which the stomach is the seat of a tumour. If, when the plessimeter is applied lightly over the stomach, an obscure sound is obtained, the tumour is superficial, the degree of obscurity in the sound corresponding to its thickness. If the tumour can, also, be easily depressed, it is both thick and moveable. A clear sound being obtained indicates either that the morbid production is very thin, or that it is covered by the stomach, distended with gas. If, when the abdominal muscles are depressed, the plessimeter is enabled to detect the tumour, it is evident that the latter is situated at the posterior part of the stomach, or altogether behind it.

The duration of stomachic digestion may be ascertained by mediate percussion; the manner of doing this will be easily understood from what has been already said.

The large intestines.—A tympanic sound detected below the stomach, and very different from the sound of the latter, is referable to the arch of the colon. This sound may readily be distinguished from that emitted still lower from the small intestines. The sound referred to occupies in general a space of two inches in height, and extending from the infra-hepatic to the middle colic and intestinal regions.

" Injections into the rectum will remove any doubts which remain as to the situation of the arch of the colon. They will render evident the part it occupies, even when it is not more dilated than the small intestines. Having ascertained precisely the tone of sound emitted by the colic region, and being well assured it is neither obscure nor humoral, a considerable quantity of water is to be injected into the rectum; if now an obscure or humoral sound manifests itself in the middle colic region, it may with some degree of certainty be affirmed that the colon occupies this region."

It is necessary that a pint (litre) of water be injected in these cases, and that the subject be placed successively in various situations, in order to cause the water to flow towards the intestine to be examined. This passage of a fluid towards the most depending portion of the bowels takes place equally during life.

The *cœcum* furnishes an extremely clear tympanic sound, which continues to be observed in the cœcal region during every position of the body. The latter will emit a humoral sound, when, by injections into the rectum, and a suitable position of the subject, a portion of fluid is thrown into the cœcum. The cœcal region furnishing an obscure sound, over a space corresponding in size and form to the cœcum, the absence of a tumour being determined by examination with the hand, is an indication that this intestine contains an accumulation of blood or liquid fæces; provided, however, a tympanic sound, proper to the cœcum, be not detected at other points of the abdomen.

When the iliac portion of the stomach is distended with gas, its sound is very similar to that of the cœcum, but distinct from the obscure sound of the small intestines. The clear sound of this portion of the colon giving place to a humoral or very indistinct sound, after the injection of even a small quantity of water into the rectum, will indicate its situation. When the transverse colon and its iliac sigma are filled with solid matter, they emit an obscure sound, succeeded, however, by one more clear, when the contractions of the intestine have carried its contents onwards.

Small intestines.—The sound of the small intestines is midway between that of the liver and large intestines. The deglutition of drinks, and the injection of fluids into the rectum, by modifying the sound emitted by the stomach and large intestines, while that of the middle portion of the digestive tube remains unchanged, will enable us to ascertain the situation of the small intestines. The sound proper to the latter seldom changes its situation with the different attitudes of the body. The sound obtained from the jejunum and ileum will be more indistinct if they contain chyme, less so if they are distended with gas, while it will partake of the humoral character if they contain at the same time liquids and gas.

In ascites, when the intestinal tube and stomach are separated from the peritoneum by the effused fluid, the plessimeter being lightly applied upon the points corresponding to these organs, an obscure sound will be obtained in percussion; under opposite circumstances the sound will be clear. If in the first case we depress the abdominal muscles, so that the instrument may arrive in contact with the digestive tube, the tympanic sound of the latter will be detected; the depth to which the instrument has to be carried in such cases, indicating the space by which the intestines are separated from the parietes of the abdomen. Hence, when it is judged necessary to perform paracentesis abdominis, by percussing with the plessimeter the part at which the trochar is to be introduced, all risk is avoided of wounding or otherwise injuring the intestines.

We must here close this analysis, leaving ourselves room only for one or two brief remarks. The work of M. Piorry is one of no ordinary interest; it is written with great candour, and a desire throughout to lay before the reader, as far as wȧs practicable, all the data, consisting of a series of experiments and observations, upon which the conclusions of the author are founded. If he has not deceived himself in regard to these, mediate percussion must be viewed as a highly important addition to our other means of diagnosis; it is under this character alone that M. Piorry has proposed its adoption. He expressly states that he has no desire to supersede by it the use of the stethoscope, or any of the means now in use calculated to solve the problem he has assumed as his motto: it is recommended merely as a source of additional information, by which the indications derived from other sources may be corrected or confirmed. He acknowledges that in many instances he has merely arrived at probable conclusions in regard to the diagnoses the plessimeter is calculated to enlighten, and that in all that relates to its employment much remains to be done by the industry of future inquirers.

The only obstacle we can perceive to impede the general adoption of mediate percussion, is the circumstance of every ear not being equally adapted to distinguish with accuracy those nice distinctions of sound by which certain physical conditions of the internal organs are to be discovered: while many will be discouraged from the study of this means of diagnosis, in consequence of the repeated trials which are necessary before any satisfactory results can be obtained from it.

φ. κ.

Article XI.—*An Account of some of the most Important Diseases peculiar to Women. By* Robert Gooch, M.D. *London. October* 1829. *Pp.* 432.

The author of the work now to be analysed, professes to present the result of *his own* observations and reflections, on some interesting and dangerous diseases of females. His opportunities of acquiring practical knowledge have been ample, having had charge of the two lying-in hospitals of Westminster and London, and having been many years extensively engaged in practice.

The sequel will probably satisfy our readers of the manner in which he has fulfilled his professions, as we shall endeavour to record, chiefly, those observations which have some claims to originality, or those which confirm, or elucidate any proposed method of treatment.

The *first chapter* treats of one of the most fatal diseases of puerperal females, known under various denominations; as puerperal or child-bed fever,—puerperal peritonitis,—or, as our author would name it,—peritoneal fever. This he prefers, as expressing the fact, that an affection of the peritoneum is an essential accompaniment of the disease, without defining what that affection is, because it is not uniform. The essential symptoms of this fever are pain and tenderness over the abdomen, with a rapid pulse. Sporadic cases occasionally occur, but are then mild in their nature, and generally recover. Often it is epidemic; and Dr Gooch inclines to the opinion that it is then contagious, at least he enumerates cases in which the disease has been found only in the patients of one accoucheur, or one nurse; and where the succession of cases has been destroyed by a change in the attendants, or even by a change of clothes. Like other epidemics, when it is most prevalent, it is most dangerous.

Our author, at page 5, says, that this epidemic form of the disease "essentially consists in fever, with an inflamed state of the peritoneum," but very judiciously inquires, "whether it is strictly uniform, differing only in degree in different cases, and requiring only different degrees of the same treatment; or whether it differs so much in kind or type, that the mode of treatment which is necessary in some cases, is destructive in others." To answer these questions, a review is presented of authors who have written on this subject during the last half century; and, finally, his own experience is given. The conclusion from the former mode is, "that puerperal fever is not one uniform disease, but may occur under different forms; that sometimes it is so mild as to be curable by the gentlest aperients, and at other times it is very obstinate and fatal. That in this latter form, it sometimes consists of acute inflammation of the peritoneum, with inflammatory fever, which bears, and is curable only by early and active depletion; sometimes of inflammation and fever of a low type, in which depletion is useless, and even pernicious." Allusion is made to the practice of M. Doulcet, of the Hotel-Dieu, Paris, which is said to have been very successful, and which consisted in exhibiting the ipecacuanha, in emetic doses, at the moment of attack; and also to that of Dr BOER, of Vienna, who reported numerous instances of successful treatment, by means of some preparation of antimony, even in cases apparently hopeless.

The names of ARMSTRONG and HEY have, of late, acquired celebrity by the decision and freedom with which they employed the lancet and purges in puerperal fever. Dr GOOCH has no doubt, that they have described and treated a genuine puerperal fever; that is, a fever accompanied by an affection of the peritoneum; but he observes, that the question returns, whether the treatment so advantageous in one epidemic, will be equally so in future epidemic fevers; or whether the complaint is not sometimes characterized by debility, in which depletion, however early and actively employed, is useless and pernicious.

In determining the character of a disease, we must attend to the symptoms, to the effects of remedies, and finally, to the post mortem appearances. In puerperal fever, there is considerable variety in the symptoms and in the appearances discovered after death; but if from these " we pass to the second particular in the history of the disease, namely, the effects of remedies, there is, perhaps, no disease of which the histories have been so opposite. RICHTER could almost always cure it. Dr WILLIAM HUNTER and Dr CLARKE could scarcely ever cure it. In Dr LOWDER's time, it was observed, that every woman who was blooded, died. In Dr ARMSTRONG's time, it was observed, that every woman who was not blooded, died." Pp. 35, 36.

Our author follows these remarks by some criticisms on Dr ARMSTRONG, for limiting all the puerperal fevers to the inflammatory affection of the peritoneum, and hence restricting practitioners to the evacuating treatment. He supports the opinion that the disease is not always an acute peritonitis, although it frequently appears in this form, and that it often demands, therefore, a very opposite mode of treatment. In Part II. he adduces his own experience to confirm these views.

From the year 1812 to 1820, Dr GOOCH, as physician to the Westminster Lying-in Hospital, frequently met with the epidemic form of this disease. It began a few days after delivery; there were diffused pain and tenderness, with some swelling of the abdomen; a quick pulse, at first generally full, and vibrating; sometimes small, but still it was hard and incompressible; skin moderately hot; tongue white and moist; milk suppressed. As the disease advanced, the belly became less painful, but more swelled, and the breathing short; towards the end, the pulse was very frequent and tremulous, and the skin covered with a clammy sweat, the tongue continuing moist, and the mind clear; death took place generally on the fifth day. *Post mortem;* intestines distended with air; the peritoneum red in various parts, forming adhesions in some places, in others, coated with coagulable lymph, masses of which were often collected in particular portions, while the cavity of the membrane was filled with a turbid fluid, of a sero-lymphatic character. Not only the peritoneal covering of the uterus was affected, but, in some cases, the substance was infiltrated with pus, and small abscesses were occasionally formed. The internal surface often appeared black and ragged, as if gangrenous. In some few cases, the disease existed without tympanitis; in such cases there was no tumefaction of the abdomen. The disease was very fatal. "When I saw the patients after it had been going on for two or three days, I seldom or ever saved them." The curable stage was very short, often lasting but a few hours. During this period, Dr G. bled and purged freely. The first bleeding was to fainting; the arm being tied up, the head was raised so as to encourage the fainting, for a few minutes. This was followed by a dose of calomel of ten to twenty grains, and afterwards, by half an ounce of sulphate of magnesia. The salts to be repeated every second hour, until copious evacuations were procured. When the faintness had disappeared, twenty to thirty leeches were applied to the painful parts; and when they had fallen off, the whole abdomen was covered with a hot poultice, or with a bag of scalded bran, to encourage the bleeding, and to operate as a perpetual fomentation.

As to the repetition of bloodletting, the two chief guides are the state of the abdomen, and that of the pulse. If the former were still painful and tender, and the pulse incompressible, or not so small and weak as to forbid general bleeding, a vein was opened, and the flow of blood continued until faintness was produced. If the pulse was weak, and mere soreness of the abdomen remained, leeches were preferred; and to be frequently repeated; as soon as the orifices of one set have done bleeding, another set to be applied, till the soreness and tenderness are gone. Purging by calomel and salts, and the constant application of the bag of poultice, or bran, completed the treatment. "The active treatment, that which will determine the fate of the patient, *should be begun and ended the first day*." This practice, thus early instituted and actively enforced, was commonly successful. Patients who were salivated by the calomel exhibited, recovered, without any exception remembered by Dr G. Valuable cases are given, in illustration of the above remarks.

Thus far, our author would confirm the opinion of ARMSTRONG, that puerperal fever is a peritonitis, to be treated by free depletory measures; but experience, which so often seems to mock even the medical philosopher, and which so continually and steadily overthrows the hasty assumptions of the enthusiast, eventually demonstrated to Dr GOOCH, that puerperal fever may be very severe and fatal, where the *inflammatory* affection of the peritoneum, if it existed at all, was very trifling, and during the course of which evacuations were prejudicial, and an opposite treatment very advantageous. Many cases and observations are given, constituting the most valuable part of this paper, two, or more of which, we will abridge, not having a space for more details. We would, however, refer our readers to the work itself, believing that such cases will greatly conduce to disembarrass men's minds of the idea, that fever is always symptomatic of local irritations.

In the eighth case related, the patient was habitually delicate, and liable to hysteria, and confined with her eighth child. At 4 A.M. of the third day was seized with vomiting, pain and tenderness over the whole abdomen; pulse quick, small and weak; skin temperate. The physician bled her to fainting; administered five grains of calomel, followed by salts and senna. The latter was vomited. Two hours after the first bleeding, the operation was again repeated to fainting; twelve leeches applied; and three grains of opium given. Dr G. was now consulted; the patient was continually fainting; face ghastly; skin cold, and clammy; pulse so quick, small and fluttering, as not to be counted. The leeches were removed, warmth and cordials administered; but death followed the same evening, thirty hours after the accession of pain. *Post mortem;* the peritoneum healthy and pale; the viscera were all healthy, but pale; the uterus contracted; and there were one to two ounces of colourless serum in the cavity of the peritoneum. "I feel no doubt, that if instead of bleeding, the belly had been covered with a perpetual fomentation, and an opiate been given every four hours, this patient would in a few hours have been quite well." P. 72.

In the winter of 1824, puerperal fever was prevalent in London;

Dr G. saw some cases in consultation. The first case occurred in a lady who had been delivered of her first child, after a tedious labour of three days. The next day she complained of considerable pain, and tenderness of abdomen, oppression at præcordia, and difficult breathing. The pulse was rapid; the intestines enormously distended with gases, so that a protrusion of the walls of the abdomen, between the recti muscles, was caused. The patient was so much exhausted, that no bleeding was practised; a gentle purge was given; after its operation, the symptoms were worse; laudanum was administered, twenty drops every two hours, but she sunk rapidly, and died on the third day after delivery. The body was opened the next day. The intestines were enormously distended with air; but the peritoneum exhibited no signs of redness, adhesion, or effusion.

In a second case, the patient complained of diffused pain and tenderness, on the evening of the third day after delivery, with a pulse one hundred and forty, and not weak. The bowels were opened by a purgative; ℥xiv. of blood taken from the arm; two grains of calomel, with five of compound powder of ipecacuanha, were given every four hours. The patient not being relieved, ℥x. of blood were abstracted, with relief to the pain. The next day, symptoms worse; a blister was applied, and calomel continued. The patient died in a little more than two days from the commencement of the symptoms.

Other cases are related by the author, and he details cases from other writers in different parts of England, which show that many puerperal fevers will not tolerate the active antiphlogistic treatment recommended by ARMSTRONG, HEY, &c.; that few or no vestiges of inflammation are to be detected after death, and that the most successful treatment consists in the use of opiates, fomentations and mild regimen. The experience of the last few years has taught—

> "That they (peritoneal fevers) may occur in their most malignant and fatal form, and yet leave few or no vestiges in the peritoneum after death. The state of this membrane, indicated by pain and tenderness of the abdomen, with a rapid pulse, appears to be not one uniform state, but one which varies so much in different cases, that a scale might be formed of its several varieties; this scale would begin with little more than a nervous affection, often removable by soothing remedies, and, when terminating fatally, leaving no morbid appearances discoverable after death. Next above this, a state in which this nervous affection is combined with some degree of con-

gestion, indicated, in the cases which recover, by the relief afforded by leeches, and in the cases which die, by slight redness in parts of the peritoneum, and a slight effusion of serum sometimes colourless, sometimes stained with blood. Above this might be placed those cases in which there are, in the peritoneum, the effusions of inflammation without its redness, namely, a pale peritoneum and no adhesions, lymph like a thin layer of soft custard, and a copious effusion of serum rendered turbid by soft lymph. Lastly, the vestiges of acute inflammation of the peritoneum, namely, redness of this membrane, adhesion of its contiguous surfaces, a copious effusion of serum and large masses of lymph."—Page 97.

Chapter II. On the disorders of the mind in lying-in women.

The mind of a puerperal female may become disordered soon after delivery, or several months afterwards, during lactation. The symptoms under either circumstances do not materially vary, but in all cases the phenomena of puerperal mania vary so considerably that no two cases are precisely similar. Dr Gooch hence prefers the relation of cases which are interesting and valuable to a minute description of the phenomena of the disease. When the complaint came on several months after delivery, it almost always appeared in the form of melancholia. It occurred in women debilitated by nursing; it never appeared to be owing to weaning; and there was usually an incipient stage in which the mind was wrong, yet right enough to recognize that it was wrong. Cases in illustration are given. In one of them the disease resembled delirium tremens; in another it was conjoined with catalepsy; but, generally, it resembled mania or melancholy arising from other causes, so that the cause of the complaint could not be detected by the mere condition of the mind.

Does the disease endanger life? Formerly it was a common belief that these diseases were never fatal; but experience abundantly proves their occasional fatality. The late Dr Baillie, when consulted about a case, remarked, " that the question was not, whether she was to get well, but when she was to get well." The patient died within a week after this prognosis. A large proportion no doubt ultimately recover, perhaps fourteen out of fifteen. Dr William Hunter, in his lectures, remarked that when puerperal mania was attended with fever like paraphrenitis, the patient will in all probability die. " This agrees," says Dr Gooch, " closely with my own experience. Cases which terminated fatally were all attended by a very rapid pulse. None of those with a slow, or only moderately excited pulse died. Some which were attended with a quick pulse recovered; but none of these were treated for paraphrenitis." As regards prognosis, the form of derangement and the period at which it occurs, should be noticed. Mania, soon after delivery, is more dangerous than melancholy occurring during nursing. Incessant sleeplessness, a quick, weak, fluttering pulse are very unfavourable. Patients generally died from exhaustion, seldom with symptoms of compressed brain. Mania is less durable than melancholy; but if life be not destroyed, reason most frequently returns. Dr GOOCH has met with but two patients, in which the disease seemed permanent, and one of these had been deranged before her marriage. The disease having occurred after one lying in, may occur after another, but the chances are against it. Much care is required; but this care being taken, the proportion of cases in which the disease recurs twice is small.

Puerperal mania most frequently occurs in females, in whose families disordered mind has already appeared, and in those patients whose constitutions are nervous. Often there was no evident predisposition, and it must be referred to the peculiar nervous excitement of individuals during the puerperal state. Disordered digestive organs may also be noticed as precursory in many cases, and some practitioners consider weaning as a cause of the disease, and hence speak of mania lactea. This is contrary to the observations of our author, who has very often, in the fashionable world of London, known the milk to be suppressed by unnatural mothers, and that soon after delivery; yet in not one did it occasion puerperal insanity.

What is the morbid state of the brain on which the disorder of the mind depends? We fully agree with Dr GOOCH, that there is a strong disposition, not only popular but professional, to attribute raving of the mind to inflammation of the brain. This disposition is stronger in this country than it should be, from the teachings and writings of the late professor RUSH, and more recently from the publications of the new French school of medicine. "But experience and reflection lead to very different conclusions; they teach us that a disorder of the mind may be connected with very opposite states of the circulation, sometimes with inflammation or active congestion, for which depletion is the shortest and surest remedy; sometimes with an opposite condition of the circulation, which depletion will only aggravate." Cases are given in illustration and proof, which we have no room to detail, but which we think substantiate the opinions advanced.

The rules of treatment are afterwards given, of which we shall present a summary.

1. The attendants should generally be chosen from among strangers; they should control her effectually but mildly. The patient should never be left alone; but should not generally be visited by her relations. The husband ought never to be left alone with his deranged wife, for obvious reasons.

2. The diet should never be very low. If the patient be pale and the skin cold, wine and broths should be allowed. When melancholia attacks a female exhausted by nursing, a nutritious and even cordial diet is recommended. Cupping, low diet and purging will confirm her disease, and perhaps convert it into idiotism.

3. Various remedial agents have been recommended; as, *first*, Bleeding. "The result of my experience is, that in puerperal mania and melancholia, and also in those cases which more resemble delirium tremens, bloodletting is not only seldom or never necessary, but generally, almost always, pernicious." It should never be resorted to unless the symptoms of congestion or inflammation of the brain are such as would indicate its employment, though the mind was not disordered. *Second.* Emetics and cathartics should be given when the stomach and bowels are much deranged. Vomiting is often of signal service in mania. *Third.* "The most valuable medicines in the treatment of puerperal mania are narcotics." It is an urgent object to procure tranquil sleep after days and nights of wakefulness. Full doses of opium are required; two are usually sufficient. When sleep has been procured, small doses at intervals of six hours should be given. Should opium disagree, hyosciamus, with an equal portion of camphor (five grains of each), is to be preferred to other articles. *Fourth.* Sometimes tonics and stimulants are demanded: as the carbonate of ammonia; the mineral acids; the bark, &c.

4. As to seclusion and control, much attention is requisite. In the early stages every excitement should be avoided; but there are circumstances which may render a change of treatment very important. When the disease has lasted long, when the patient expresses a strong wish to see some near friend, when she entertains illusions which the sight of some one may efface, the admission of such a person

is worth a trial. An interview with a friend is not advisable when a person is recovering, but when month after month passes without any amendment, and her mental delusions assume a shape accessible to moral impressions. A very interesting case of the success of this experiment is related, in which a female, for a long time secluded from her friends, imagined herself pursued by her husband's ghost. The illusion was dispelled by a visit from her husband; during which he entered into a minute detail of family circumstances which interested her feelings, and effectually changed the current of her thoughts.

The author concludes this chapter by an ingenious defence of the *medical* treatment of mania, proving that it is a disease of the physical man, of the brain as the organ of the mind; and that this organ is deranged whether the cause originated in the body or was derived from moral phenomena. The fact that moral regimen may cure mania, merely demonstrates what every one acknowledges, that moral phenomena influence the brain, and thence the body generally. In this country we do not perceive that this argument is at present necessary.

Chapter III. on the mode of distinguishing pregnancy from the diseases which resemble it, we shall also pass over, as containing nothing new, however valuable the observations may be to the junior practitioner. Our surprise is elicited rather by the ignorance of the patients or their advisers, than by any peculiar adroitness in the consulting physician.

Chapter IV. treats of polypus of the uterus, its symptoms, history, diseases with which it may be confounded, its consequences, and its treatment. The whole is valuable as an elementary essay, but possesses little novelty for an observing and experienced practitioner.

Dr Gooch believes polypus to be a more frequent complaint than usually supposed, and that many protracted and exhausting cases of leucorrhœa or menorrhagia, so called, are depending on its existence, and immediately cured by its removal, the patient rapidly recovering health and strength. He also considers that the "*large white tubercle*" of the uterus, commonly called the fleshy tubercle, is the same disease as the polypus: they differ as to the seat and mode of their attachment.

The *diagnosis* is often difficult. When the polypus arises from the fundus of the uterus, its existence cannot be detected until it has so much enlarged as to protrude at the os tinci; but in the interim may become the source of hemorrhage, pain, and even endanger life. An interesting case is given. Any well instructed physician can distinguish polypus from prolapsus of the uterus. From an inverted uterus more difficulty is experienced in discriminating its character, especially in cases of partial inversion, where the fundus protrudes through the os uteri. A case is given of a female suffering from a partial inversion, whose life was greatly endangered by frequent and profuse hemorrhages, who was cured by a ligature to the uterine tumour, after an attempt to revert the uterus had failed. The ligature was tightened every other day, always with much pain; but on the fourteenth day came away with the tumour. Cases, however, are afterwards detailed, in which the most severe symptoms, and even death, resulted from including a portion of the uterus in the ligature for polypus. To distinguish between polypus, and malignant excrescences which grow again after removal and terminate fatally, is not always easy. "Whenever the tumour has a stalk, which can be included in a ligature without any danger of including the neck or fundus of the uterus, I would apply it; it succeeds in an immense proportion of cases. I have known it succeed in several, where, from the cauliflower roughness of the tumour, others have been deterred from it; and even if the excrescence should return, the patient is not worse off than she was before." P. 266.

Dr Gooch, for the removal of polypi, recommends the double canula, of which the two tubes are separable, which was originally contrived by Niessen, a German surgeon, and modified by Levret and others. Vide Cooper's First Lines of Surgery.

Two changes are proposed by Dr Gooch: first, that the tubes should be straight, as being most easily applied; and second, that the upper and lower rings, by which the tubes are eventually joined, should be connected by a long silver rod. In applying the instrument, great care should be taken not to include any portion of the uterus, for reasons already given. The tumour becomes detached after a few days, and usually is easily removed; occasionally violent expulsive efforts are excited, and even manual assistance is required. In one case, these expulsive efforts on the part of the patient came on before the tumour was detached; Dr Gooch grasped the polypus, and by a little pulling the whole was expelled. The body of the tumour was then removed by a knife, while the stalk, with the ligature attached, was slipped back into the vagina. The bearing down efforts did not return, and the patient recovered.

Several cases are given of polypus attended by some peculiar circumstances: as, 1. Leucorrhœa instead of hemorrhage. 2. Pregnancy. 3. When a polypus grows from the lip of the uterus, and the stalk is very thick, the other lip and the orifice of the uterus cannot be detected. 4. A cylindrical form of the tumour. And 5. The minute size of the polypus giving rise to hemorrhage, and yet not to be secured by a ligature. It may be torn away with a forceps.

The chapter concludes with some account of excrescences from the uterus, which are liable to be mistaken for polypus. These have generally a rough surface, grow from a broad base, consist of a congeries of vessels, like a soft fungus, are insensible, grow again after removal, and after death or a ligature shrink to an empty skin. They destroy by frequent hemorrhages. Dr Gooch believes them similar to the *fungus hæmatodes* in other parts of the body, and are identical with the *vivaces* described by Herbiniaux and Levret, and the *cauliflower excrescence* by Dr Clarke.

Chapter V. treats of "*the irritable uterus*," a name given by Dr Gooch to a state of nervous irritation of the uterus, in imitation of Sir Astley Cooper, who speaks of the *irritable breast*, of Mr Brodie, who describes *an hysteric disease of the knee*, and of other surgeons, who make mention of the *irritable testicle*. It differs from a chronic inflammation, inasmuch as, however intractable and however long it may last, no alteration of structure results.

It is characterized by pain along the brim of the pelvis, and often in the loins, aggravated by exercise and by an erect position; the recumbent posture diminishes, but does not completely relieve the pain as in prolapsus uteri. The pain often occurs in severe paroxysms, although the horizontal position has been maintained. On examination, the uterus will be found exquisitely tender, varying however at different periods: the neck and body of the uterus are slightly swollen, sometimes the swelling is hardly perceptible; in other respects the uterus is perfectly natural, even after the disease has existed for several years. The pulse is soft, not much quicker than natural, but is easily quickened by the slightest emotion. In protracted cases, the patient often becomes thin, pale, weak and nervous; menstruation is often irregular, sometimes diminishes, or even ceases. Digestive organs are but slightly affected. "To embody them (the symptoms) in one view, let the reader fancy to himself a young or middle aged woman, somewhat reduced in flesh and health, almost living on her sofa for months, or even years, from a constant pain in the uterus, which renders her unable to sit up and take exercise; the uterus, on examination, unchanged in structure, but exquisitely tender; even in the recumbent posture always in pain, but subject to great aggravations, more or less frequently." P. 314.

The causes are, generally, considerable bodily exertions at times when the uterus is in a susceptible state, as after parturition, abortion, during menstruation, &c.

Relapses are common, and patients are always apprehensive of some malignant disease, but of this there is no danger. The most useful treatment, (tardy as it may be in most cases, and vain in others), consists, 1st, in subduing pain, and, 2d, in restoring the general health. In fulfilling these indications, great judgment is generally required. *Repose* in a horizontal position should be persevered in whenever the pain is perpetual; it is absolutely necessary for the completion of the cure. *Bleeding* from the arm may be occasionally necessary, but local bleeding is generally to be preferred. Cupping to the sacrum or loins, or leeching to the anus or pudendum. The operation requires frequent repetition, and should, if possible, be employed in anticipation of an expected paroxysm. As the disease is tedious, no more blood should be taken than is absolutely necessary, that the strength may not be exhausted. Narcotics are important; the most useful is one-third of camphor and two-thirds of extract of henbane, or hemlock or poppy in pills of five grains. They may be given by the mouth, or per rectum. Laxatives are required to obviate costiveness; but an active purge almost always aggravates the pain. These remedies may be occasionally assisted by the warm hip bath, by a mild course of mercury, by small and repeated blisters, or a small caustic issue. Caution is required, for fear these remedies should do mischief to the general health. There is a stage or class of these cases which is chiefly benefited by restorative means, especially Chalybeate waters.

When patients recover, great caution is requisite to prevent a relapse, which should be long persevered in; and in those cases where little benefit has been experienced, the patients unfortunately become accustomed to a daily enormous allowance of opium. Cases in illustration are appended.

Chapter V. treats of a peculiar form of hemorrhage from the uterus. Dr Gooch has observed that in some instances a profuse hemorrhage has ensued, threatening the life of the patient, after the delivery of the placenta, and when the uterus had contracted so as to be felt like a ball above the pubis. On careful examination he thought this peculiarity was dependent on an excited state of the circulation; and having charge of a female who was subject to this accident, he adopted an antiphlogistic treatment for some time before her confinement, with the happy advantage in her next labour of greatly diminishing the discharge, and in the following one of preventing it altogether. The case is detailed at length, p. 345, et seq. In the management of the hemorrhage, Dr Gooch found that the shock caused by pouring cold water on the abdomen was much more effectual than a greater degree of cold, by means of pounded ice, &c. without the shock. If the placenta has been removed, the quickest way to arrest the hemorrhage is to press the uterus between one hand introduced into its cavity, and, if possible, to the spot where the placenta had been attached, and the other hand applied over the uterus on the abdomen.

Chapter VI. we consider as one of the most important in the work, although our author leaves the diseases of puerperal females to give his views of some symptoms in children, from a few months to two or three years of age, erroneously attributed to congestion or inflammation of the brain. These symptoms are heaviness of the head and drowsiness. The physician finds the child lying in its nurse's lap, unable or unwilling to raise its head, half asleep, one moment opening its eyes and the next closing them again with a remarkable expression of languor. The tongue is slightly white, the skin is not hot, at times the nurse remarks that it is colder than natural; in some cases there is at times a slight and transient flush. These cases, says Dr Gooch, have been, so far as his observation has extended, invariably attributed to congestion or inflammation, and been treated by leeches, cold lotions, purgatives, and calomel. Under this practice, the patients have gradually become worse, and finally died, not with symptoms of oppressed brain, but exhausted. In two cases, however, coma, stertorous breathing, and dilated and motionless pupil were seen, as precursors of death. On dissection, the vessels of the brain and its membranes are found small and emptied; there is no alteration of structure, but usually more serum than natural on the surface, or in the ventricles of the brain.

Dr G. gives a few cases, in some of which the evacuating plan was pursued with a fatal result; in others, he recommended mild nourishment, particularly ass's milk, to be administered, and gave some gentle tonic or stimulating medicine, as decoction of bark, ammonia, aromatic spirit of ammonia, &c. with immediate advantage, and rapid recovery. Dr ABERCROMBIE has noticed this state of things, at p. 310 of his Researches on the Brain; and Dr MARSHALL HALL has lately read a paper before the Medico-Chirurgical Society of London, (Vide Medical Gazette, for 1829,) in which he recognises this complaint.

Our author, as we think correctly, maintains that the effusions of serum, observed in these cases, are not indicative of inflammatory action, because there had been no previous evidence of an excited circulation, and for several days before death, all that part of the circulatory system cognizable to the sense, was at the lowest ebb consistent with life, and after death the vessels were remarkably empty, and the ventricles filled with water. That this was a passive exudation, is corroborated by the dissection of animals bled to death. Drs SAUNDERS and SEEDS found, in animals bled to death, more or less serous effusion, and Dr KELLY was led by experiment to believe, that the more gradual the depletion, the larger will be the serous effusion. "If this be true," says Dr G. "it is of great practical importance; for if we take delicate feeble children, and by bleeding and purging for an imaginary congestion of the brain, reduce their circulation to a very low ebb, and keep it so, we run the risk of producing that very effusion of serum into the brain which we are endeavouring by our remedies to prevent." P. 369.

We have already intimated our assent to the leading doctrines of this chapter, and feel happy in having this opportunity of calling the attention of the medical community in this country to the subject. The state of the system, and of the brain in particular, here described, is a very common result of the cholera infantum and other exhausting diseases among children in our summer season, and we hear frequently of the summer complaint being cured, but that the child is dying with dropsy of the brain. When this supposed metastasis of irritation has occurred, the physician, engrossed with the idea of active congestion, inflammation and effusion, overlooks the symptoms of exhaustion; prescribes repeated applications of cups, leeches, and blisters, and administers mercury, internally and externally, with a lavish hand. Death soon terminates the case, and the unfortunate practitioner is confirmed in his pathology and practice by discovering, on dissection, one, two, or more ounces of serum on the surface or in the ventricles of the brain; for such effusion, he imagines, can only result from inflammation. Without assuming too much, considering the opportunities for observation we have enjoyed for more than ten years in private and public practice in this metropolis, we may confidently assert, that many, very many of such patients might not only be saved, but very speedily cured, by abstaining from all evacuations, and administering nutritious mucilages, rendered slightly stimulating by means of spices, brandy, &c. while great attention is paid to sustaining a proper action on the surface by means of dry heat, and frictions with stimulating liniments. We have thus treated, with success, many cases of supposed hydrocephalus.

Dr G. has attached an *appendix* to his work, containing some Observations on the Plague, which were originally published in the London Quarterly Review, and were greatly instrumental in resisting the mania for destroying, or materially modifying the quarantine laws of England, on the supposition that the plague was not contagious. The paper is very valuable, and deserves the study of the legislator and the physician.

ARTICLE XII.—*Commentaries on the Causes, Forms, Symptoms, and Treatment, Moral and Medical, of Insanity. By* GEORGE MAN BURROWS, M.D. *Member of the Royal College of Physicians of London, &c. &c. London,* 1828. *Pp.* 716.

[Continued from p. 149.]

In our last number, we discussed, with no little fulness of detail, the predisposing causes of insanity. We endeavoured to show that as the faculties of the mind were dependent on a healthy structure of particular regions of the brain for their vigorous exercise, so were any aberrations of intellect to be traced to organic cerebral disturbance, and any tendency or predisposition to such aberrations, to peculiar conformation of the cerebrum or impressibility of its substance. Such are the conditions under which the organization of the insane individual himself is placed. But these, again, are inherited from parents, and hence the phrases hereditary predisposition and hereditary insanity. The last is erroneous and ought to be entirely discarded; since the structural alterations of an organ on which disease depends, cannot be transmitted from parent to child, but only the habitual weakness of the organ, by which it is prone to be injured and lesed under the operation of causes, which, in other circumstances of greater strength and development of the part, would be comparatively harmless. This is a cardinal point in our investigations, whether we trace the disturbance of the brain to excessive functional exercise, or to transmitted irritation from other viscera. By adhering to it we shall be enabled to simplify very much the views of Dr BURROWS in that part of his work which remains for us to analyze.

We objected to this gentleman including under the general head of *physical* causes, the physiological and pathological inquiries into hereditary predisposition, the vascular and nervous systems, disorders of the circulation, hemorrhagic discharges, diseases complicated with insanity, metastasis, sympathy, and conversion, fatal diseases consequent on insanity, and a synopsis of the fatal diseases of insane persons. In the ten commentaries in which he treats of these various subjects, there is no question of physical causes. It is only in the twelfth commentary, under the head of climate and occupation, that we naturally look for some notice of them. Without however insisting any farther on this topic, we shall hasten to lay before our readers, in as condensed a manner as possible, the large store of facts embraced in these commentaries of the author.

No attempt, says Dr B. appears to have been made in England, till within these last fifty years, to investigate by dissection the pathology of mental disorders. The first impulse to anatomical investigations of the morbid phenomena of insanity may be ascribed rather to accident than to a philosophical spirit of research. Dr ANDREW MARSHALL, in 1789, observed, in a paper he read before a medical society, that he had found the brain diseased in two cases of hydrophobia; and he stated generally, that he believed that organ was also materially affected in mania. This opinion was rudely attacked by the celebrated physiologist JOHN HUNTER. In truth, the general belief at that time was, that insanity left after death no evidence in the brain of its previous existence. MARSHALL made many dissections of the insane at Old Bethlehem Hospital in support of his opinion. But it was not till 1815, and after his death, that his morbid anatomy of the brain in mania and hydrophobia was published. Dr Haslam, in his Observations on Madness, &c. fully corroborated the position of Marshall, by proving that there was a morbid condition in the encephalon of the maniacs submitted to their inspection.

The morbid appearances commonly presented in maniacal subjects having been once proved,—some sceptics, among whom were Crowther, Black, and others, objected that these were the effects and not the causes of the disease. Their doubts coincide with the opinion of many eminent physiologists, who have since entered upon the inquiry. Observations begun by Bonnetus, Morgagni, &c. teach us, that in some maniacs examined after death, there was neither malformation nor alteration, nor could morbid appearance of any kind be detected in any part of them. Dr Burrows says, "I have myself assisted at several accurate anatomical investigations, conducted by eminent demonstrators, of the crania of insane persons who had been under my care, and who had exhibited up to the hour of their decease the most furious symptoms of mania for months; and yet not a vestige of disease could be traced." The author here certainly must mean, by crania, brains; exhibiting one among the numerous instances of careless and hasty composition. Pinel and Esquirol furnish similar examples, and add that the same morbid appearances displayed in the bodies of those who had died mad, were discovered in the corpses of those who had died of diseases quite unconnected with insanity. We do not see that Dr Burrows meets this difficulty by asking, "Where is the anatomist who will dare maintain that a brain is free from disease or structural change, because, after the most minute inspection, he cannot discover any?"

We should rather say, that few anatomists have, until late years, acquired, by a knowledge of general anatomy and of the healthy appearances of the more delicate tissues, a right to speak authoritatively of the absence of minute morbid changes. In the instances of opacity and thickening of the arachnoid membrane, and softening of the brain, we discover how long a period of time, during which dissections are performed, may elapse before revelations on even important and every day matters in morbid anatomy are made.

The testimony of Morgagni, Cheyne, Abercrombie, Powell, Stark, &c. proves that death from apoplexy frequently occurs; and yet no evidence of cerebral lesion could be discovered on the minutest investigation of the brain. Now it would be, we think, rather a hazardous inference to assert in this case, as has been done in that of insanity, that the brain had not been organically affected. We hold it to be a thing physiologically impossible for an organ to become incompetent to the discharge of its function without some lesion of its structure. We must not expect to find always disorganization, or even very notable alteration. Irritation is sufficient, even when transmitted, so to change the calibre of the vessels; and the state of the membranes and cerebral fibres, as to cause death without the capillaries exhibiting after this event any increase of size, or the membranes of thickness or alteration of colour.' The morbid cause did not, however, the less consist in a change in the relative situation of the molecules of the part.

Dr Burrows lays some stress on what he terms the maniacal diathesis, a state not evidenced, as he alleges, by *post mortem* examinations, nor measured by obviously peculiar organization. He says, "that insanity arises from a specific action independent of an actual state of cerebral disease, is obvious;" and elsewhere, he expresses his belief of there being "no necessity to predicate an organic change of the brain as the cause, whether of insanity or delirium. For, agreeably to the same law to which every organ seems subjected, it is not essential for functional disorder, that structural disease should precede. Continuance of functional lesion will produce organic lesion; and be the action what it may, on which the understanding depends; when that action is deranged, it will probably superinduce a disease of structure." We must confess, that to us all this is abundantly vague and unsatisfactory. It has long been a favourite mode of expression with many writers, to speak of functional disorder in a spirit of abstraction, as a something *sui generis*, in which the organs are presumed not to be affected. The case is briefly this. A natural function is exercised by the organ in its healthy state: a diseased function is performed by the same organ without its being changed, that is, in its healthy state. If this be not a fair *reductio ad absurdum*, we are ignorant of this method of reasoning.

The author adverts to the attempts made, first by Haller and subsequently by Home, to establish a correspondence between the living and morbid phenomena, in the pathology of insanity; but, as he informs us, both failed: the deductions of the first were obtained from the few dissections of maniacs published by other anatomists; and the second did not pursue his researches upon a scale sufficiently extensive to come to any conclusion. In Great Britain, popular prejudice opposes many obstacles to pathological investigation. In France, on the other hand, the facilities are great and truly enviable. The results have not, it is true, been so entirely conclusive as we could wish; though we are not without respectable authority for believing that great advances have been made towards satisfactorily determining a positive and undeviating connexion between certain delusions of the mind, and well defined morbid conditions of the encephalon. Dr Burrows might have alluded, as confirmations of our hopes on this subject, to the wonderful discoveries made of late years, in our knowledge of the laws of the nervous system in general, and especially of the connexion between particular parts of it and the different motorial and sensitive organs. In illustration of his antecedent remarks, he gives a brief notice of the doctrine of Dr Bayle (*Traité des Maladies du Cerveau et ses Membranes*, 1826). "This author is confident that he is able not only to connect specific symptoms of mental disorder with specific morbid conditions of the encephalon, with which there is a uniform correspondence, but also to show, that in a great proportion of cases, the commencement of the mental disturbance is to be imputed to a chronic disease of the membranes—of which he describes the forms, stages and complications, and to which the different stages of cerebral disease, and those of intellectual disorder clearly belong." Bayle describes two kinds of inflammation, each having perfectly distinct anatomical characters and symptoms; the first he denominates chronic or latent *arachnitis*, because it principally has its seat in the arachnoid, and the latter, *chronic meningitis*, because it conjointly affects the pia mater, as well as the arachnoid membrane. The latter affection, he asserts, is so uniformly attended with incomplete paralysis, that of fourteen hundred and fifty-three cases of mental alienation a fifteenth of the men and a twenty-eighth of the women were affected with this symptom. He remarks that there is a striking analogy between drunkenness, in which there exist evident signs of irritation and transient congestions of the brain, with that alienation occasioned by chronic meningitis.

The mental character of this peculiar form of insanity described by the French physician, is a prevalence of *ambitious* ideas. He thinks that it is the effect of irritation or inflammation of the gray substance of the brain, which immediately deranges its functions. This irritation and this inflammation are, in their turn, direct results of a chronic inflammation of the membranes, whieh commences on their internal or cerebral face. Of one hundred dissections of the brain, he did not meet with a single exception, he says, to the diseased appearances which are connected with the symptoms of this form of mental disorder.

" Contemporaneous with Bayle's work is another from the same school, by Dr F. L. Calmeil, on paralysis as it appears in lunatics. These two pathologists seem to have pursued their inquiries at the same time, in the Royal Lunatic Asylum of Charenton; and though they describe, under different names, the same affection in lunatics, yet, as authors, appear almost strangers to each other's labours. This is very uncandid and suspicious. Besides, there are some discrepancies in their respective histories, which very much shake the credit due to either."

Dr Burrows, in a note to this paragraph, mentions his surprise at seeing so great a number of lunatics paralytic, and especially of the lower extremities, at Charenton, when he visited it in 1817. He at first attributed this to the effects of damp and cold; but he adds: " I have since learned, that all the insane military are sent to Charenton. Of those afflicted with chronic meningitis, one-third were military men; and the greatest part of those so affected had served in the campaigns of Bonaparte, and of course had been subjected to all the rigours and privations of severe service; a fact that satisfactorily accounts for the number of paralytic lunatics, in that especially, and likewise in the other French asylums."

Bayle is supported in his positions by Falret, who lays claim to be the original discoverer of this morbid condition of the membranes with coincident mental symptoms; and also by those of Calmeil and Voisin. He goes still farther, and endeavours to show that a chronic inflammation of the mucous membrane of the stomach and bowels influences and modifies the character of mental aberrations. Of the correctness of this opinion, notwithstanding the scepticism expressed by Dr Burrows, we do not entertain the least doubt.

Rouchoux, Rostan, Lallemand and other French pathologists, describe the very frequent occurrence in lunatics, of a morbid condition of the cerebral substance, which they call a softening of the brain, (*ramollissement du cerveau,*) and which morbid condition is always attended by certain pathognomonic symptoms. ABERCROMBIE has followed in the same field of observation.

Though Dr BURROWS thinks that delirium or insanity may be developed, and yet the brain be free from an inflammatory action, he inclines to the belief that cerebral irritation, the initiatory step to inflammation, may be a common source of mental disturbance. He might have added, that this is the most usual state of things where the brain is secondarily affected from disease of other viscera, especially the abdominal.

We need not do more than give the hypothesis of Dr F. WILLIS, as recorded by Dr BURROWS, (Treatise on Mental Derangement, by F. WILLIS, M.D. 1823) which supposes insanity to depend on "a specific diseased action of those fine vessels that secrete the nervous fluid of the brain."

In some cases, three of which were met with by the author, the immediate source of irritation productive of insanity, was in the spinal-cord.

Among the morbid changes observed in the insane, ESQUIROL notices, as to him of frequent occurrence, an alteration in the condition and position of the transverse colon, which he supposed might operate as a sympathetic cause. Our pathologists have not seen this deviation.

As properly remarked by Dr BURROWS, the influence of sympathy in the production of insanity is very extensive, and probably is the most common source of it. VAN HELMONT revived the ancient opinions respecting the sympathetic action of diseased viscera, one on the other, and especially on the functions of the brain. BORDEU, BARTHEZ, PORTAL, DUMAS, CABANIS, and most of the French physiologists, are imbued with the principles of VAN HELMONT. Even the celebrated PINEL assigns more influence to the abdominal viscera, than any other organs, in eliciting insanity. To this list, furnished by Dr BURROWS, we may add the name of BROUSSAIS, not less celebrated than any other. He has, in different works, laid down with great force and fulness of detail, the positions that the brain is constantly stimulated by two series of agencies: 1. Those acting on it through the senses, commonly so called; 2. Those affecting it through the medium of the internal sentient surfaces and glandular apparatus, which are placed in connexion with the brain by the par vagum and great sympathetic.

Dr Burrows begins with the liver, in his enumeration of organs sympathising with the brain. Injuries and disturbance of one, very promptly affect the other.

"Diseases of the hepatic system will even originate delirium, furious mania, melancholy and suicide." If we, in common with the physiological school of France, construe diseases of the hepatic system to mean those of the digestive canal, with which the former are so closely and commonly, if not invariably, associated, we can see no reason to doubt the correctness of this assertion of Dr Burrows.

"Insanity," he adds, "is much more common among the lowest classes than the supporters of its mental origin are inclined to admit. Now drunkenness is certainly the great vice of this class in Great Britain and Ireland, and the propensity is gratified usually by ardent spirits. In a table of 1370 lunatics, admitted into the asylum at Cork, Dr Halloran says, one hundred and sixty were insane from this unhappy indulgence.

"The French, comparatively, are considered as a sober people; but it appears that inebriation is a frequent cause of insanity among the Parisians. One hundred and eighty-five out of twenty-five hundred and seven lunatics, admitted into the French hospitals, were insane from drunkenness; and of these *one hundred and twenty-six* were men, and *fifty-nine* women!"

The following remarks are so pertinent, and practically valuable, that although they are without pretensions to novelty, we shall transcribe them entire.

"Perhaps in no instance would the liver of an habitual drunkard be found diseased, without the stomach also having undergone, by the same process, a structural lesion. Without such stimulus, gastric affections are among the most constant attendants of insanity, especially in melancholic and hypochondriacal patients.

"It appears, indeed, a legitimate conclusion, that a morbid condition of the chylopoïetic viscera is sympathetically a frequent cause of mental derangement.

"Gastric irritation, too, is a much more frequent cause of mental derangement, through this mysterious agency, than is usually imagined. Long continued nausea is often a precursor of a paroxysm of insanity. Violent nausea, also, from sea-sickness, continued for a few hours, has produced mania in three instances within my knowledge.

"The efficacy of remedies, with a view to restore the functions of the digestive organs, after the violence of a paroxysm of insanity has abated, strongly implies that the disorder of them has powerfully influenced the mental derangement.

"Intestinal irritation has, doubtless, its share, in sympathetically influencing the brain. Some authors ascribe delirium to intestinal worms; and among the poor, who live on a bad diet, this may be a frequent cause of much sympathetic irritation of the brain.

"Anatomists also describe singular states of disease of the spleen, in the bodies of persons dying insane, and hence have imputed much influence to this organ. I have met with two such cases on dissection; but no symptom existed which indicated disease of this viscus while the patients were living. Indeed, the physiology of the spleen is too obscure, to justify any reliance on an opinion respecting its functions and sympathies.

"The reciprocal sympathies between the uterine system and the brain inducing insanity, are too frequent and notorious, to escape observation.

"In two instances, I have known sudden mania originate from irritation of cutting the *dentes sapientiæ.*

"Mental derangement has more often its rise from scrofula than is generally supposed. If we inquire into the history of a patient, or well examine his exterior, the traces of this morbid condition will be very frequently discovered.

"Scrofula very frequently extends to the brain, and then incurable insanity commonly follows. Now, many physiologists insist, that this organ is a gland; and when scrofula attacks the glands we know that it renders them unfitted for the particular function assigned to them. Cannot the brain be affected by scrofula, in the same way? This is certain, that insanity, grafted on scrofula, is always very obstinate, unless it finds a solution in the suppurative process.

"Mania alternating with the enlargement or diminution of the maxillary and sub-maxillary glands, and other cases where the induration of them always occasioned great mental excitement, sometimes occur.

"The lamentable vice of masturbation is a frequent and a formidable cause of insanity. It is a habit too often acquired before puberty; and, if persisted in, at length subverts the constitution and the intellectual faculties. But sometimes, Pinel tells us, it is the consequence of association in large communities of insane persons, and then it is the effect of the loss of reason."

We give the concluding observation of the author, on the modifying influence of temperament. "Nevertheless, I do not infer that the doctrine of temperaments is altogether to be disregarded in medicine; for it is certain that our judgment, guided by attention to constitutional peculiarities, may frequently anticipate the nature of an approaching disease. It is to the generalization only of the doctrine, and not to the principle, that objection lies."

The following summary of the results of dissections of two hundred and fifty-nine maniacs, as furnished by Dr B. will be interesting to our readers.

“*Lesions of the Brain.*

Apoplexy	27	
Organic lesion of the substance of the brain	19	
Organic chronic lesion of the membranes	22	
	—	68

“*Lesions of other Organs.*

Chronic peripneumony,	20	
Phthisis,	22	
Chronic peritonitis,	9	
Chronic pleuritis,	7	
Chronic inflammation of the digestive canal,	50	
Other organic lesions of this viscus,	13	
Lesions of the liver,	5	
kidneys,	3	
ovaries,	2	
uterus,	4	
	—	135
	Total	203

“In the other fifty-six corpses there were no visible evidence of disease in any of the viscera of the three great cavities! The spinal cord was examined in only two cases.

“From these dissections it follows; 1. That lesions of the brain, the organ of the intellectual functions, are in the proportion of one to two of those of the other viscera; 2. That more than *one* in *five* corpses of maniacs, present no evidence of any disease whatever! 3. That in a great majority of cases, the insanity was a sympathetic affection; and 4. That as in more than a fifth of two hundred and fifty-nine dissections, no lesion or alteration could be detected, it strongly corroborates the opinion, that when such lesions or alterations are observed, they are posterior, and not anterior to the development of the mental derangement.”

We see no necessity for admitting this last assertion as a corollary from the preceding facts. We can readily understand, on the contrary, how irritation, consisting in turgescence and excited action of the capillaries, and other vessels of the brain and membranes, should, by persistence, degenerate into chronic inflammation and formation of morbid structure. But from first to last there is lesion and organic alteration.

We have anticipated the remarks of Dr Burrows, in his commentary on hereditary predisposition, as we believed the question demanded an earlier investigation than he gives it.

Among many appropriate observations in his commentary on the vascular and nervous system, we begin with the following. We would recommend them to the attention of some pathologists of the day, who, in imitation of Dr Rush, locate irritation (his word was excitement,) in a particular system, as if, like electrical fluid surrounded by non-conductors, it could be kept thus confined.

"Neither the vascular nor the nervous system can receive an insulated impression; for whether the irritation which an impression produces be applied either to the sanguiferous or lymphatic vessels, or the branches of nerves in connexion with them, both systems participate and equally suffer. Thus we find alterations, or even disorganizations of structure, result from long continued nervous complaints; and, at length, the parts so affected proceed to a state of erythism or sub-inflammation; and finally, to the highest degree of excitement in real inflammation.

"Every artery has its accompanying nerve; and the connexion by their respective ramifications is so intimate, that morbific causes consequently readily extend their influence from one to the other; and if the nerves receive the first impression, its effect or irritation is immediately imparted to the capillaries, and a morbid sensibility of the nerves may be continued by the reaction of vascular irritation. It is by attacking these vascular irritations, that relief is often afforded in nervous affections, and so also in mania and hypochondriasis.

"Dr Wilson Philip considers that the power of the blood vessels may not only be influenced, but be destroyed, by affections of the nervous system. Perhaps the latter effect takes place in those cases of sudden death, described by Esquirol as occurring in maniacs, which leave no trace either in the brain or other organ, of the cause, and are erroneously considered to be apoplexy. On the contrary, too great, or too much momentum of blood, will certainly not only influence, but destroy the nervous power, as we see in sanguineous apoplexy."

The reciprocal influence of the brain and circulation is well known: and the morbid action of the sanguiferous system in insanity has been treated by a great many writers, from Hippocrates down to the present day; but by no one with more clearness and point than the late Dr Parry.

The great number who become insane from drunkenness, is a strong proof how much vascular excitement influences derangements of the mind. **Bayle** says, seventy-nine out of a hundred and twenty-seven lunatics were of the sanguineous temperament, and three only of the nervous.

All the precursory symptoms, as well as those on the actual access of mania, characterise a disorder in the circulation: as headach or sense of distention; throbbing of the arteries supplying the head; tinnitus aurium; the eyes blood-shot, often prominent and shining; flushed face, and preternatural degree of heat of the scalp; while the extremities are cold, pulse hurried, &c. In some, these signs of accelerated circulation long continue; in others they are observable only on the approach of a paroxysm, and gradually decline with it.

A state of congestion of the capillary and venous system is a consequence generally of too great determination; and is commonly conspicuous on dissection of the insane.

The dissections of **Morgagni**, **Meckel**, **Greding**, **Haslam**, **Marshall**, **Esquirol**, **Newmann**, &c. testify how strongly the circulation is affected in insane persons: sometimes by mere turgescence of the vessels, or by effusions of serum or coagulable lymph, rupture of bloodvessels, or by changes in the structure of the vessels themselves. A diseased state of the coats of arteries has frequently been detected, and traced from their communication with the brain and membranes along their whole course downwards to the aorta. **Marshall** notices, that the great vessels in the head, and those from the heart upwards also, were generally found diseased in his dissections of maniacs; and he conceived that they became so from disordered vascular action.

Sir **Gilbert Blane**, in examining the body of a lady who was subject to periodical mania, which terminated in apoplexy, remarked an aneurism of each carotid artery, which filled up the cavities of the *sella turcica;* and to this disease of the arteries he refers all the attendant symptoms, the urgency of which had always been relieved by abstracting blood from the head, purgatives, antimonials and abstinence. In this case there was no extravasation of blood to occasion the apoplectic event.

The change thus observed in the larger vessels is, Dr **Burrows** thinks, fairly presumable also in the minute capillary ones which ramify through the substance of the brain. "The blood, also," he adds shortly after, "is the pabulum of secretion and growth and life, and what it is to our corporeal existence, that it is to the intelligent principle."

"Pressure on the jugular veins of maniacs, by which the blood in the brain accumulates, or on the carotid arteries, by which the brain is prevented from receiving its usual supply of blood, has, PARRY says, while the pressure continued equally, produced restoration of the intellectual faculties."

In the next or sixth commentary, the author pursues the inquiry by examining how far the phenomena of disordered circulation illustrate those of insanity. He first treats of the *excessive quantity* or *momentum of the blood* as a cause of deranged intellect.

"External heat (insolation), violent exercise, certain aliments, alcohol, stimulating medicines, mental emotions, mechanical injuries, all operate on and excite the sanguiferous system. Any of these stimuli are capable of producing all the diseases usually denominated *nervous*, most of which originate in a disordered state of the circulation, and may precede, be connected with, or are convertible into actual insanity."

No symptom, says Dr BURROWS, is so uniform in all incipient or recent cases of mania or melancholia, as a preternatural heat of the scalp; while, usually, the heat of the surface of the body or the extremities, is below the ordinary temperature. Excessive pulsation of the carotid arteries often precedes mania, and yet there is general debility. Hence the danger of stimulation, which all goes to the already morbidly excited brain. The effects of transfusion of blood show its power over the brain.

We are aware how one morbid action will often relieve another. Mania relieves consumption, fever mania, and so on. But we deny the inference of Dr B. that the most powerful remedies for the cure of insanity, act by inducing artificial fever. He instances exercise, the bath, mercury, antimony, and tonics. We question whether any of these are even of use, when they do produce irritation of a part so great as to cause fever. The case is different where persons are in a state of fatuity and prostration. Then we can conceive how a reaction caused by fever, as has happened after attacks of typhus, remittent, and hectic, should restore, at least for a while, mental sanity.

The author treats next of the effects on the brain of *defective quantity* or *momentum of blood*. "Persons exhibit, in particular forms of insanity a peculiar pallor of the skin, accompanied with such extreme emaciation, that a deficiency in the supply of blood is strongly indicated." We may generally suspect in such cases chronic disease of the digestive canal.

All cerebral affections are readily induced, says Dr Burrows, by causes which debilitate the system. We should rather say, that debility predisposes to cerebral disease.

In the seventh commentary, the author instances various *anomalies in the circulation*. The pulse is, he tells us, a more equivocal sign in all cerebral disorders, than in any other morbid condition. Any experienced pathologist will add, that it is a very equivocal sign in most morbid conditions. Irregular action of one carotid only is met with in insanity.

Dr Burrows speaks of the great command which insane persons have over their countenances, so that a physician may be occasionally deceived as to their real state. He adds that the pulse will enable us to detect the agitation which is not betrayed by the face: —he advances here an opinion, in contradiction with what he had said in a former paragraph, of the little reliance to be placed on the pulse in cerebral disorders.

When he says that inordinate vascular action is annihilated for a time, by the nervous power, he expresses himself in too figurative a strain. Why not say that excessive excitement is followed by debility?

In the eighth commentary, under the head of *hemorrhagic discharges*, the author treats of the menstrual and hemorrhoidal fluxes, the varicose, nasal, and other hemorrhages, as greatly influencing the functions of the mind.

The explanation of these effects is very simple. A gland in its morbid secretions, &c., or tissues gorged and discharging blood, have prompter and more powerful sympathies with the brain than a part would have in its natural structure and function. Hence the distress of the brain is not always to be measured by the congestion of the organ with which it sympathises, nor is the relief of the former uniformly in the ratio of the discharge from the latter. The brain suffers in these cases by transmitted irritation; whether it come from a natural organization or an anomalous one, the creation of hemorrhagic effort.

Amenorrhœa is regarded by the author oftener as a consequence than a cause of cerebral disturbance. Emmenagogues and the like stimulating agents are often injurious in such cases.

Cessation of the menses is an epoch favourable to the development of mental aberration; not merely by any irregularity in the circulation, but as connected with moral considerations. As an author has observed, the age of pleasing in all females is then past, though in many the desire to please is not the less lively. The exterior alone loses its attractions, but vanity preserves its pretensions. It is now especially that jealousy exerts its empire, and becomes very often a cause of delirium. Many, too, at this epoch, imbibe very enthusiastic religious notions; but more have recourse to the stimulus of strong cordials, to allay the uneasy and nervous sensations peculiar to this time of life; and thus produce a degree of excitation equally dangerous to the equanimity of the moral feelings and mental faculties."

In reference to suppression of the hemorrhoidal discharge, and the practice of the French, and other continental physicians to apply leeches to the anus as derivants, Dr B. expresses his disbelief in such suppression being a cause of insanity; "for, according to the evidence from anatomical investigations, diseases of the abdominal organs among the insane, are by no means common." This is certainly at variance with what he tells us, respecting the influence of the liver and digestive organs, when speaking of sympathies.

A copious discharge of blood from the nose often relieves, and sometimes proves critical in removing disorders of the mental faculties; and the propensity to suicide has often been cured by the hemorrhage from a self-inflicted wound. Drawing blood from the jugular vein, arteriotomy, or the local abstraction of blood by cupping or leeching, will frequently prove a substitute for the natural hemorrhage.

From the ninth commentary in which *diseases complicated with insanity* are treated of, we could, if space were allowed, glean many interesting notices. "Epilepsy is frequently complicated with, or ends in mental derangement. It may be complicated with every form of aberration, alienation, or deficiency of intellect." This junction is the most terrible modification of mental derangement. Maniacal apoplexy is a fatal disease. At all times, we should prevent epileptic maniacs from associating with the other insane, on account of the violent paroxysms of rage and fury to which the former are liable, and which would endanger the lives of those around. In this form of insanity, morbid dissections have shown increased vascular action and determination to the brain. In cases of convulsions with mania, it has been discovered after death, that the exciting cause was a sharp irregular shape of the processes at the base of the skull.

"The Paris registers report only five cures, out of six hundred and eighty-two, old and new admissions of epileptic maniacs.

"In the hospital of La Charité, Berlin, the success has been much greater; the recoveries amounting to near a fourth of the epileptics admitted."

Dr Burrows complains that no adequate provision is made for persons with epileptic mania, in the British asylums.

Apoplexy. Esquirol computes that apoplexy constitutes a sixth of the physical causes of insanity, and an eighth of the deaths.

The *apoplexia defectiva* of Boerhaave, which is said to be one of the fatal terminations of insanity, procceds, we are told, from a deficiency in the supply and determination of blood to the brain; if so, the title is a bull.

There are, Dr B. thinks, abundant proofs of the affinity of apoplexy and insanity in their causes, origin, termination, and complications with abdominal disease. Both apoplexy and insanity have been caused by great political convulsions.

Of paralysis complicated with insanity, we learn that more than half of the insane die, in the French hospitals. The paralysis of insane persons is incurable.

Hysteria alternating with headach, vertigo and epilepsy, sometimes degenerates into mania. Males are subject to this affection, and in them it is more liable to be a precursor to mania.

Hydropic effusions are very common in the brain of insane persons. Dr B. found them, with very few exceptions, in the ventricles, or between the membranes of the brain, or in the theca vertebralis. Such collections are compatible with integrity of the mental functions.

Between hydrocephalus and mania there is, he says, a striking analogy. Like apoplexy and insanity too, the diathesis of hydrocephalus is hereditary.

The recently insane, when examined after death, have not, says Dr B. in five cases of his own, exhibited water, or at least in very small quantity, in the ventricles of the brain. The reader must bear in mind the qualifying term of recently, applied to the insane, otherwise he would accuse the author of being in contradiction with himself, in comparing this last with a preceding paragraph.

An interesting case is given, in detail, of catalepsy associated with mania.

The tenth commentary is taken up with the subjects of *metastasis*, *sympathy*, and *conversion*. We cannot, for want of space, follow the author in his facts and speculations on these matters; nor do we conceive it necessary. We have already spoken of the brain being so often sympathetically affected from irritation of other parts, especially the abdominal viscera. Frequently the double irritation persists and furnishes examples of sympathy; sometimes the primary irritation disappears, leaving the brain to suffer; this constitutes conversion and metastasis. Much of the wonder caused by these morbid changes proceeded from physicians considering diseases as something abstract, or a kind of essence which sometimes showed itself under one group of symptoms, and sometimes of another. By bearing in mind the fact that disease is but the alteration of a tissue or organ, we shall cease to be surprised at this part either affecting another by sympathy, or producing in it such a degree of disturbance, as to make the second disease a true revulsion, and carry off entirely the first. Dr Burrows again adverts in this commentary, to the great sympathy between the liver and brain. He very properly is of opinion that the mucous membranes transfer morbid action more frequently, and with greater facility than the viscera, properly so called. Mead tells us that there is an interchangeable relation, between phthisis and insanity.

In the eleventh commentary we are furnished with accounts of *fatal diseases* consequent on insanity. Of these we copy the following classification of a French commission, which has reported on the deaths in the lunatic asylums in Paris, during the years 1822, 1823, and 1824.

Organic diseases of the brain and its membranes,	418
Diseases of the thoracic organs, . .	198
Inflammations of the abdominal organs, .	306
Cutaneous inflammations, . . .	3
Cachexies, ...	110
Chirurgical diseases, . . .	47
Diseases undetermined, . . .	9
	1091

Gastro-intestinal diseases present themselves most commonly among the insane. Dr Burrows enumerates the following as those under which they often suffer. 1. *Atony*. 2. *Consumption*. 3. *Chronic inflammation of the bowels, dysentery and colliquative diar-*

rhœa. 4. *Affections of the liver*. 5. *Constipation*. 6. *Sudden debility*. 7. *Mortification of the extremities*.

We object very pointedly to such terms as atony, constipation and sudden debility, under the head of diseases. Their use shows a very imperfect train of causation in the mind of the physician; these states are effects of a morbid condition of parts, but not diseases themselves.

Phthisis kills more than half the lunatics in La Salpetrière. Organic lesions of the liver proved mortal, according to ESQUIROL, in thirty-five out of two hundred and seventy-seven deaths, or one in eight. Scurvy has made great ravages among the lunatics in the French hospitals. It generally has its origin in locality—want of good pure air, or defective nutriment.

The twelfth commentary is a *synopsis of fatal diseases of insane persons*, as they came under Dr BURROWS's own notice, in the last thirteen years. We may find room for this in some other part of the present number of our Journal.

Under the heads of *climate*, *occupation*, *sex*, *age*, in the thirteenth commentary, Dr B. tells us that climate does not appear to be an exciting cause of insanity; but it cannot be denied that the seasons are so, and that when the thermometer is highest in temperate regions, the number of insane is greatly augmented. In the Paris register we learn that the employments and moral conditions in life, which entail the greatest poverty, and consequent misery, are those which produce the greatest proportion of insanity.

The proportion of the two sexes insane varies in different countries. There are more lunatic women in France than in England. ESQUIROL ascribes the greater equality of insanity between the sexes in England, to the women receiving a more solid education, leading a more domestic life, and taking a less active share in society than in France.

"Drunkenness, which prevails most among males, is one reason why, generally, so many more men than women are insane, otherwise the exciting physical causes to which females are naturally exposed, and from which males are exempt, would probably have occasioned a different result.

"The ages, with reference to the sex of the insane admitted into the French hospitals, are thus stated:

Table of Ages.

	Males.	Females.	Total.
From 10 to 19	78	62	140
20 to 29	198	267	465
30 to 39	248	324	572
40 to 49	231	290	521
50 to 59	132	218	350
60 to 69	119	146	265
70 to 79	76	101	177
80 to 89	7	4	11
Ages unknown	6	0	6
	1095	1412	2507
Under 50 years of age	755	943	1698
Above 50 years of age	340	469	809
			2507

In the second part of his work, Dr **Burrows** treats of the division of insanity, its character, delirium, delirium tremens, stages of insanity, puerperal insanity, senile insanity, suicide and its treatment, hypochondriasis and its treatment, demency or fatuity, idiocy.

The third part is taken up with reflections on the terminations of insanity. These are, 1. Recovery. 2. Relapses and recurrences. 3. Incurability. 4. Mortality.

Part fourth is on the prognostic. Part fifth is on medical treatment, moral treatment, restraint, separation and seclusion, exercise, occupations and amusements.

Part sixth is on the subject of medical evidence in cases of insanity.

It is very obvious that we can barely allude to some of these numerous topics, the consideration of which by the author occupies the larger part of his book.

The order which Dr **Burrows** adopts is,

I. Insanity.
  1. Delirium—delirium tremens.
  2. Mania—puerperal insanity.
  3. Melancholia—suicide.
  4. Hypochondriasis.
  5. Demency.
  6. Idiocy.

The commentary on the *character of insanity* contains many sensible and valuable remarks, the merits of which can be poorly conveyed to the writer by an occasional extract. Particular attention is directed to the following: 1. *Physiognomy;* 2. *Position;* 3. *Sensation;* 4. *Muscular Powers;* 5. *Fasting;* 6. *Odour.*

The feature which undergoes the most singular and striking change is the eye; but to describe it by either the pencil or pen, is almost impossible. Cunning, suspicion, and fear, are always forcibly depicted in the eye of the maniac. But above all, the propensity to suicide is, Dr B. thinks, most strongly marked by it.

Position frequently points out the seat of disease or pain, in insane persons, when we can obtain no other indication. Many lunatics are observed to rub or press their heads with their hands, and if asked, will acknowledge that they feel pain there.

Sensation varies greatly in the different varieties and stages of insanity.

"The muscular power exerted by insane people is truly marvellous, and often immensely disproportionate to their form and their natural powers. This is the result of violent action of the sensorium." It would be a most unfortunate inference to suppose, that this occasional display of great muscular power is an evidence of real strength, and would justify a depleting practice.

"The insane have been supposed to sustain fasting with less injury to the system than if they were sane. This is equally as erroneous as the impression, that they are less susceptible to the vicissitudes of temperature, or that they possess a greater degree of vital power than others."

Deprivation of sufficient nutritive food of itself, always, says the author, exasperates chronic cases of insanity. PINEL speaks very decidedly to the same effect.

A peculiar odour often characterizes the maniacal patient. It is regarded by Dr BURROWS as a pathognomonic symptom, so unerring, that if he detected it in any person, he should not hesitate to pronounce him insane, even though he had no other proof of it.

We must reluctantly pass over in silence the commentary on delirium; excepting to repeat the opinion of the author, that "the proximate cause of the disorder is always in the brain or its membranes."

The next commentary is on *delirium tremens.* Dr B. refers to the essay by Dr COATES on this disease*, in which the subject is so fully treated as to render it unnecessary for us to descant on it here. In reference to the opinion expressed by Dr Coates, that the patient must sleep or die, Dr B. remarks, that "unquestionably, sleep is the natural solution of this malady, as it is of intoxication from wine; but I have seen many cases of delirium tremens continue several days, and where, when sleep came on, it was from the subsidence of the symptoms, unaided by narcotics of any kind. The cure, therefore, was not the effect of sleep; but sleep was the natural effect of diminished excitement. Thus far, however, I can confirm this physician's opinion. I have seen death ensue from the withholding of narcotics, till they were too late to arrest the fatal event."

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* See the North American Medical and Surgical Journal, Vol. IV.

This commentary is concluded by a *diagnosis of maniacal and acute delirium*, too long for us to extract.

In the commentary on the *stages of insanity*, the author arranges them as follows: 1. The *Incipient;* 2. The *Active* or *Confirmed;* 3. The *Decline* and *Convalescent;* 4. The *Terminations*. The last subdivides into, 1. *Recovery;* 2. *Relapses* and *Recurrences;* 3. *Incurability;* 4. *Mortality*.

Under the head of *precursory state* is the following judicious remark. "The knowledge of an hereditary predisposition, or of a highly nervous and excitable temperament, should put every one on his guard against the possible occurrence of insanity; and when there are particular or sudden deviations in the physical and intellectual characters of such individual, there is always cause for alarm." We wish we had room for the description of the incipient stage of mania, when "every thing is done by impulse, nothing from reflection; many things are begun and eagerly pursued, but few are finished." Part of the picture is thus sketched:

"Usually the first physical signs of mental derangement are broken sleep and troublesome dreams, slight cephalalgia, palpitation, a sensation of blood rushing to the head, or pulsation at the temples, occasional heat and flushing of the face, slight giddiness, and buzzing noise in the ears. The digestive functions are altered; the appetite is precarious, sometimes increased, sometimes diminished; the complexion changes, and the patient grows thin." So far every one of the above enumerated symptoms, has, in cases, been the effect of disordered digestion, and has disappeared when this function was restored to its normal state. The author proceeds: "The menses become irregular, diminished, and at length often suppressed; sometimes their obstruction precedes all other symptoms. In fact all the secretions are gradually impeded and vitiated. There is a marked change in the expression of the features, and the indications of modesty or diffidence, natural, perhaps, to the character of the patient, are now the reverse. The appearance of the eyes is singularly changed. This feature, always perhaps the most unerring index of the mind, instantly betrays, to one accustomed to insane people, an aberration of the intellectual faculties. The eyes at this period are more brilliant and animated than usual, or shining, staring, and protruding." As the symptoms accumulate, we find "the cheeks sometimes flushed, sometimes pallid; the tongue streaked like a whitish list down the centre; some thirst; the pulse quickened, full and often hurried; a slight degree of heat; scalp hot, and with an indistinct pain or heaviness in the head; appetite very irregular, often voracious, but no attention paid to meals or time." If the disorder gains force there is a sense of constriction or tightness, with weight or pain round the head, "stronger throbbing or rushing of blood, or preternatural heat of the cranium; noises in the ears louder; great quickness of hearing, but attention transitory, vertigo; carotids beating strongly, and perhaps not in unison with the stroke of the radial pulse; bowels inactive. Pervigilium constant; or if there be a short sleep, incubus attends it."

The mental manifestations of incipient mania are, among others, general high spirits; new ideas, propensities and passions; short reveries suddenly interrupted; restlessness and desire of change; quick and hurried utterance; blustering and authoritative, commanding and countermanding in the same breath; passionate and irascible, laughing immoderately or singing or shedding tears, and all equally without cause; propensity for drinking or venery, and general agitation.

"As the malady advances the memory experiences sudden lapses, succeeded by vivid thoughts, sometimes pleasing, sometimes horrific; violent sudden laughter, crying or shrieking, imaginary noises and whisperings, increased suspicion."

Of the *active* or *confirmed stage* of mania, we need no enumeration of the symptoms. There can seldom be any mistake on this score. It is the state of predisposition and the symptoms of the incipient stage, that it most behoves us to be acquainted with, if we would hope to prevent, by remedial means, the disease from being fully established.

In opposite columns the author gives the *diagnosis of mania and cephalitis*. We doubt the propriety of several of these distinctions; a very large number of the symptoms are common to both. Those of cephalitis are usually indicative of more violent and acute cerebral irritation. There is more vehement fever than in mania; the tongue is also more generally altered, being parched, at first red, then whitish, or yellow, or black in the former; whereas in mania it is white, and foul, but moist. Deglutition is free in the latter, and difficult in cephalitis.

The incipient stage of melancholia is marked not so much by the peculiar symptoms of the diseased assimilating organs differing from those of mania, as by those of the cerebral apparatus and the senses. The mind usually dwells on some one subject, and is impressed respecting it in a painful and depressed manner. This is the monomania of French writers.

"Persons of the melancholic temperament, it has been remarked, have the venous system largely developed; the veins especially of the hands and arms are large; and there is great susceptibility of the nervous system."

Among the evidences of *convalescence from insanity*, regular sound sleep and a return of the natural affections are the most satisfactory. "So long as great watchfulness and agitating dreams occupy the place of refreshing rest, the cure is incomplete, and a relapse may be anticipated."

Dr BURROWS has a long and valuable commentary on *puerperal insanity*. In it he gives a synopsis of cases of this disease supervening on *labour* or *weaning*. We must content ourselves with giving the corollaries deduced from his experience.

"1. That mania is a more frequent consequence of lying-in and the process of lactation, than any other variety of mental derangement.

"2. That puerperal insanity occurs from the age of twenty to thirty, in the proportion nearly of two to one at all other ages.

"3. That in London, physical causes much more frequently originate puerperal insanity than moral causes; the physical being to the moral as ten to one. In Paris the reverse obtains, and the moral are to the physical as four to one.

"4. That the access of puerperal insanity happens before the fourteenth day in three out of five cases.

"5. That it happens between the fourteenth and twenty-eighth days, in one out of about six cases and a half.

"6. That nearly four in five recover their intellect.

"7. That not more than half recover in six months.

"8. That those recover soonest, whose delirium supervenes on the process of lactation.

"9. That the maniacal form ceases sooner than the melancholic.

"10. That the mortality is *apparently*, but not *really*, (as will be proved presently,) double ESQUIROL's return; and that the greater number of deaths occurred before the second week from delivery.

"11. That half and possibly more, if the truth could always be discovered, attacked by puerperal insanity, prove to possess an hereditary predisposition."

There were ten deaths in the fifty-seven patients, whose cases are given by Dr BURROWS, in his synopsis. "Seven of them occurred within twelve days from the access of the delirium, two within seven weeks, and one after four months; two of these had active uterine disease, and two others died in consequence of relapses, after they had recovered from puerperal mania."

The treatment of this form of insanity is detailed at some length. The author cautions against free venesection; but recommends, if there be heat, fulness and pain about the head, that the hair be shaved, and cups or leeches, and cold applied; he speaks of the efficacy of copious evacuations from the bowels. A warm slipper or hip bath, or a foot bath filled with a warm infusion of mustard seed or of horse radish, are useful in equalizing the circulation and relieving cerebral irritation. To restore the secretion of milk, and the discharge of the lochia, if suppressed, is very desirable. The French, with this latter view, apply leeches to the vulva. Dr BURROWS with the same intent, recommends drawing blood by cupping on the sacrum.

Congestion of the cerebral vessels removed, and all tendency to coma absent, narcotics may be used. Dr B. has no faith in blisters. "If applied to the head or contiguous parts during the state of the exacerbation, they decidedly do harm. The only way in which I have thought advantage has been produced by them is as a derivant, when applied to the thighs or legs." We hope the lovers of blistering will bear this advice in mind, and resist their first propensity to clap a blister on the shaved crown, or the neck of every turbulent patient whom they are required to treat. We fear that the possibility not to say probability of aggravating as well as ameliorating a disease, is not sufficiently borne in mind by many of our medical brethren, who will not consent to look to the right or the left, or to cast a glance over their shoulders, but press on in the old beaten road trodden by their fathers and predecessors before them. They ought, after all, to remember that somebody must have first marked out the course which they pursue. Was he infallible?

In applying sinapisms to the feet, which Dr Burrows prefers to blisters in cases of coma or torpidity of the system, and particularly of the skin, we are cautioned against allowing them to remain too long on the feet. From being kept on beyond the point of producing great pain and complaint, he has known ordinary delirium carried to perfect fury. "The same effect may be produced from blisters injudiciously applied to the head of a person in a state of mania or epilepsy."

The author insists on the necessity of nutriment of some kind being got down in the incipient stage of puerperal insanity; for a sudden and most unexpected state of exhaustion frequently supervenes, and may carry off the patient.

The circumstance which should govern us in the important and delicate point of the patient's seclusion from relations, is the existence of or freedom from any morbid association of ideas with home, or perversion of affections, suspicion, &c.

The seventh commentary is a short one, and is taken up with the subject of *senile insanity*. This is a species of mental aberration peculiar to old age, and hence designated by some *delirium senile*. "It developes itself in those who may never before have been insane, nor possess hereditary predisposition. It comes on, perhaps, when the reflections attending a well spent life, and every earthly comfort, might otherwise ensure calm repose for the short remnant of existence. Hence this affection is the more distressing to the patient's family, since it is the disappointment of a promise well deserved.

In this singular affection the system is influenced by an extraordinary excitation prompting the revival of youthful passions and follies, when the powers of fruition have long ceased."

The treatment of *senile* insanity must be purely palliative, and regulated by the organic disturbance.

The commentary on *suicide* abounds in excellent views, worthy of a physician and a philanthropist.

"The causes of suicide are inherent or adventitious, direct or indirect, physical or moral. They are inherent when hereditary; adventitious when evolved by a constitution not previously tainted; direct, when produced by any sudden and sufficiently strong emotion; indirect, when the casual result of previous suffering; physical, when the consequence of fever, of a previous state of insanity or of bodily disease; moral, when proceeding from intense grief, or mental affection of any other kind, a vicious education, civil or political convulsions, or mistaken impressions in religious matters. These are truisms, and require elucidation only, and not proofs."

The author says, "I have several times seen the propensity to suicide developed where it never before existed, in the last stage of phthisis pulmonalis. So likewise in cases where the liver and spleen has been found in a state of disease; and there is no doubt that it is often the effect of uterine irritation acting sympathetically on the brain.

"Sometimes the suicidical propensity has been observed to be simultaneous with the periodical return of the menstrual flux, and to cease when it was fully established; so also when it has been obstructed.

"Accustomed discharges of blood from the nose, from piles, or varicose vessels, not occurring at their wonted periods, or having accidentally stopped, have produced suicide. The sudden retrocession of cutaneous eruptions had the same effect. To enumerate all the physical or moral sources of this unhappy propensity is superfluous, since it would only be repeating all the causes which can induce insanity.

"It seems not the least remarkable among the many paradoxes exhibited in mental derangement, that the fear of damnation is the most frequent cause of suicide; and that those who are impelled by this hallucination are generally the most simple and innocent persons."

In reference to the different means resorted to for the commission of suicide, the author says, "There is even a national taste in these matters. If the English are addicted to shooting themselves, the Prussians are still more to hanging. The French who are fond of effect in all things, show it even in the last act, and prefer making an exit from some elevated or conspicuous place, such as a high column or monument, or a bridge, and the time mid-day, and in the presence of a multitude. This is the *ne plus ultra*, and gives great eclat to the character of the suicide.

"In respect to countries, more suicides take place in the colder countries of Europe, than in the hotter. For instance, in the summer of 1805, three hundred persons at Copenhagen out of a population of 80,000, committed suicide; and at Berlin since 1819, out of a population of 170,000, five hundred immolated themselves in six years and a half; while at Naples, according to the census of 1826, containing 349,000 inhabitants, there were only seven suicides. In the whole of Spain, it is stated, there were only sixteen suicides in 1826.

"The seasons, however, very much influence suicide; for I find on examining and comparing two tables of suicides, one kept at Westminster, from 1812 to 1821 inclusive, the other at Hamburgh, from 1816 to 1822 inclusive, that in both cities suicide is at the maximum in July, and at the minimum in October. But if the whole year be divided into quarters, it will be seen, that more suicides are committed in Westminster in the first three months than in any other quarter. In Hamburgh, the number in each quarter does not vary so much.

"At Rouen and Copenhagen it also prevails in June and July in a much higher degree than in any other month of the year.

"The number of suicides in Paris, from 1817 to 1826, amounts to 3185. The average of these as to the months is,

January	213	July	301
February	218	August	296
March	275	September	248
April	374	October	198
May	328	November	131
June	336	December	217

"The average as to the seasons is,

Spring	997
Summer	933
Autumn	627
Winter	648."

Contrary to the common slander cast on the month of November, it gives both in Paris and London the fewest cases of suicide.

The proportion of suicides, therefore, in the capitals of Paris, Berlin, and Copenhagen, was in 1817, in relation to that of London, as 5 to 2, 5 to 3, and 3 to 1.

The English are not then, as commonly believed, the greatest self-murderers in the world, however they may surpass all other people in the art of self-tormenting.

Women are less disposed to suicide than men. In England, France and Germany, the proportion of the former to the latter is about one in three. The disproportion, therefore, between the sexes, is much greater than in common insanity, without the suicidal character.

The most frequent cause of suicide, as noted in a list of cases occurring at Berlin in the course of six years and a half, was, according to professor Casper, drunkenness and dissipation.

Among the measures for the *treatment of suicide*, we think those recommended in the following paragraph are especially entitled to commendation.

"I can with confidence pronounce, especially where the propensity has originated in excessive grief, that timely extraction of blood, either locally from the head, or generally from the system, by very moderate venesection, in a majority of incipient cases, not only relieves the urgent symptoms, but also suspends the propensity to suicide." AVENBRUGGER prescribes cold water; he makes the patient drink a pint every hour; and if he continues pensive and taciturn, he desires his forehead, temples and eyes to be sprinkled with it, till he becomes more gay and communicative. His feet, during the aspersions, are to be wrapped in warm flannel. HUFELAND, also, has prescribed water internally, as a remedy in mania.

It behoves every rational man to raise his voice and use his pen against the monstrous practice of giving wine, malt liquors, and perhaps spirits and water, to persons depressed with grief and care, or sad without visible cause. They may be made stupid by these drinks, or they may be driven to suicide; but they are not rendered any happier, or more cheerful or resigned. In all these cases let the physician see that no organ of the body is suffering; and let the true friend and adviser direct the mind of the sufferer to his God—a God of mercy and kindness—the true, the only consoler.

In treating of *hypochondriasis*, the author admits to a certain extent, the opinion of Dr PARRY, that this disease is occasioned by excessive determination of blood to the brain. GEORGET and FALRET adopt nearly the same view. Dr BURROWS says, he has known hypochondriasis induced in a healthy but nervous person, simply by reading medical books.

"The unhappy vapourer, J. J. Rousseau, is a striking illustration of this fact." Students of medicine, and even physicians are apt to appropriate to themselves diseases, of which they have been merely reading, or which they have lately seen. Cowper and Moliere were both hypochondriacs.

In addition to the distressing sensations about the head, and palpitations of the heart in hypochondriasis, there is generally pain at the epigastrium, with a sense of stricture across the hypochondria, and dyspepsia. Dr BURROWS presents no novel or very striking curative views in the management of this disease.

Demency or *fatuity*, the subject of the next commentary, may alternate with mania or melancholia, or it may, which is more usual, be the sequel of either. It must not be confounded with connate imbecillity, which arises from the mental faculties never having been developed. The disease in question implies a previous possession and exercise of these faculties; but which, by age, disease, or excessive exercise, have become simply deteriorated. The treatment of demency will depend very much on its origin. We are cautioned to beware of using depleting and exhausting remedies, unless there exist the clearest proofs of increased vascular action in the brain.

Epilepsy often produces demency; probably by weakening the nervous system. Out of 289 epilepsies in La Salpetrière, a thirtieth part of them degenerated into chronic fatuity.

Idiocy is a congenital, or an acquired defect of the intellectual faculties; usually the former. "Congenital idiocy may originate in mal-conformation of the cranium, or of the brain itself. Acquired idiocy proceeds from mechanical injury of the cranium, by which the functions of the brain are lesed or impeded, or from an injury or disease which that organ has sustained. It follows also from excess in sensual pleasures, habitual drunkenness, excessive depletions of blood, masturbation, extenuating diseases, study too intense or wrong directed, and from profound moral causes, as terror, fright, extreme joy, &c."

In the third part of the work, under the head of ***Terminations of Insanity***, we notice first, ***Recovery.***

"Happily," says Dr Burrows, "the experience of the present age clearly demonstrates that a very large proportion of the insane recover the perfect use of their understanding." We have in this commentary, a valuable "*Comparative table of the cases of insanity in different institutions for lunatics.*" We cannot copy it in this place, but shall endeavour to give it room elsewhere.

Dr Burrows stated in a former publication, of the accuracy of which he has since had no reason to doubt, that on the aggregate of all the cases he had under his care, including patients in a state of fatuity, idiocy and epilepsy, the proportion of recoveries was 81 in 100; of recent cases 91 in 100; of old cases, 35 in 100.

When speaking of relapses, the author tells us, that "the probability of relapse is always in a ratio with the suddenness of recovery, and therefore is commonest in mania." He advocates the detention of the convalescent in the asylum, for a length of time after he is presumed to be cured. Greater attention to enforcing this practice gives the French a great advantage over British asylums in this respect. "Thus in the French asylums, the proportion of *relapses* to the *admissions* is in both sexes only a *twenty-sixth* part; while in Wakefield, which perhaps, is the best public asylum in England, the proportion of relapses to the admissions is as high as a *sixth*."

The proportion of women relapsed is much smaller than that of men relapsed, being about one half. The medium residence of each *man* discharged *cured*, is four months and fifteen days; that of each *woman cured*, nine months and twenty-five days; the medium sojourn of both sexes being seven months and fourteen days.

In the commentary on *mortality*, Dr Burrows, after giving several tables of the deaths among the insane at different asylums, says, "from personal information and from every other source of information, I am confirmed in the proposition I commenced with—that insanity simply, exempt from its complications and consequences, tends to the shortening ot human life; and further, I believe that the mortality attending it exceeds that of every other disease partaking so slightly of an acute character." The mortality on the aggregate of all lunatics in British public asylums, is about 24 in 100.

Of the *prognostic* in insanity, on which the author has a commentary, we shall say nothing here, because we cannot say enough.

Under the head of *medical treatment*, the author discusses remedies in the following order. 1. Abstractions of blood. 2. Dry cupping. 3. Refrigeration. 4. Gyration and swinging. 5. Sleep. 6. Narcotics. 7. Blistering. 8. Setons and issues. 9. Artificial eruptions. 10. Bathing. 11. Purging. 12. Vomiting. 13. Nausea. 14. Salivation. 15. Digitalis. 16. Camphor. 17. Turpentine. 18. Tonics. 19. Tobacco. 20. Diet.

Of bloodletting, he says, that after many years use of it, he has of late become so reserved, as to have scarcely ordered it in six cases of simple mania or melancholia, in as many years. More he thinks, have recovered under the second practice. Topical or local bleeding may be very useful. Dr Burrows has thought it indicated in every case of recent insanity which he has seen. The mode has been by cupping or leeches. Cupping on the occiput is to be preferred.

Cold applications to the head should be continued no longer than the preternatural heat of the scalp lasts.

Dr Burrows professes no personal experience in the operation of gyration and swinging. Many authors praise it highly.

If *opiates* are to be of use in mania, the dose must be large. Dr B. mentions the great quantities of opium which have been given by some physicians; he has never ventured beyond five grains of purified opium as the first dose. In those cases where he deemed an anodyne admissible, he generally began with doses of three grains, and repeated one every two or three hours. In this way he never exceeded twelve grains; and if sleep has not then followed, he has desisted. He has tried the morphia but with no particular effects.

Hufeland praises highly the hyosciamus niger, to obtain the decided soporific effect of which we must give, says Dr B. the extract at bed time, to the extent of from fifteen to thirty grains, or ten or fifteen grains every six hours. If prescribed merely as a calmant, four or five grains at a dose suffice.

On the subject of *blisters*, we learn that "convalescent patients have complained, that blisters to the head produce exactly the same sensation in the brain as when they were first attacked. Where blistering is admissible at all, it is in the more advanced stage of insanity, when vascular excitement is diminished, and the nervous system requires stimulating."

Dr B. does not think much of *setons* and *issues*, as a remedy for insanity. His success with tartarised antimony, rubbed in the form of ointment on the skin, does not at all correspond with the flattering accounts given of it by Dr Jenner.

He is sparing in the use of *purges;* he has discarded hellebore. Calomel, in conjunction with other cathartics, is very useful.

When treating of *the means of obviating costiveness*, the author says, that galvanism is not only a safe mode of causing evacuations, but is conducive to the restoration of a healthy action of the bowels. Surprise and great jolting, have each, on occasions, overcome obstinate costiveness in lunatics.

Dr B.'s confidence in emetics alone in cases of insanity has been, after several years' perseverance, entirely dissipated.

Occasionally he has recourse to emetics, but only as he would in other diseases—"to free the stomach from troublesome ingesta, accumulated phlegms, or morbid bile; and sometimes to give activity to torpid viscera, and rouse and emulge the general system."

Nausea exercises a powerful control in mania. Sleep will sometimes occur in this state. In melancholia, nausea ought never to be excited.

There are, the author thinks, certain maniacal conditions, in which the efficacy of mercury is indisputable; but what these conditions are, we do not precisely know. He speaks here of its sialagogue powers. His own success with the remedy has been very small.

The *digitalis* is considered, in the work before us, as having a very powerful influence, when properly administered, in all stages of insanity, accompanied with great vascular excitement, and a rapid pulse. Previous bleeding and purging is recommended.

Tonics must be given with great caution. Some maniacs, deemed incurable, have recovered by a change from a poor and insufficient to a generous diet.

We cannot give, with any fulness, the views of the author on the *moral treatment* of the insane. Directions on this head are needless to the physician of correct feelings and sound judgment. If he be destitute of these gifts and qualifications, rules will be to him of little avail. Much depends also on the good sense and benevolence of the attendants. In reference to *restraint*, Dr Burrows thinks that "*solitary* confinement is certainly best for the turbulent and vicious." The effect is increased by the room being kept dark. Dr B. maintains that the restraint necessary to prevent a patient from doing injury to himself or others, or to enable his attendants to control him is frequently called for, is generally useful, and notwithstanding all that is alleged of lunatics being managed without, cannot altogether be dispensed with.

As to the *exercise*, *occupation* and *amusements* of the insane, we may sum up the necessary directions by repeating, with some additions, what the author says of music. We ought first to ascertain the disposition and prior habits, as well as the peculiar delusion of each patient, and admit or proscribe occupations and amusements, according to their effects.

We were ourselves much struck with the arrangements at the Salpetrière in Paris. Within its precincts are a market, a church, some shops, and extensive walks and gardens, so that the insane females can be not only usefully employed in various works in doors, but allowed, according to the character of their insanity and advance to convalescence, to dispose of their little manufactures, and make purchases, or otherwise amuse and occupy themselves in the open air. They are thus prepared the better to encounter the shock of the great world, when once more restored to it; and are less liable to have their malady aggravated during the period of their seclusion from it.

In conclusion, we may say of the work of Dr Burrows, that, although rather diffuse in arrangement, and not unfrequently careless in argument and style, it displays considerable research, industrious observation, correct and elevated feelings, and a spirit of candour, and real love of truth. The author writes like an intelligent gentleman, and a good physician and pure moralist. We would especially recommend to the perusal of the reader, the numerous histories of cases given in different commentaries.

Bibliographical Notices.

Article XIII.—*Rapport lu à l'Académie Royale de Médecine, dans les Séances du* 15 *Mai et* 19 *Juin* 1827, *au nom de la Commission chargée d'examiner les Documents de* M. Chervin, *concernant la Fièvre Jaune. Publié textuellement d'après l'édition de l'Académie, et accompagné de remarques. Par* Le Dr Chervin.

Examen des Principes de l'Administration en matière sanitaire, ou Réponse au discours prononcé à la Chambre des Députés, le 31 *Mai* 1826. *Par* M. De Boisbertrand, *Directeur de l'Administration Générale des Etablissements d'Utilité Publique. Par* N. Chervin, D.M.P.

Réponse au Discours de M. Le Dr Audouard, *contre le Rapport fait à l'Académie Royale de Médecine de Paris, sur mes Documents concernant la Fièvre Jaune. Par* N. Chervin, D.M.P.

De la Nullité des Prétendus Faits de Contagion obsérvés à Barcelone en 1821, *ou Deuxième Reponse à* M. Audouard, D.M.M. *&c. Par* N. Chervin, D.M.P.

Réponse aux Allégations de M. Le Dr Girardin, *contre le Rapport de la Commission de l'Académie Royale de Médecine, chargée de l'examen de mes Documents sur la Fièvre Jaune. Par* N. Chervin, D.M.P.

Pétition du Docteur N. Chervin, *contre la Formation des Lazarets, projetés depuis* 1822, *dans la vue de mettre la France à l'abri de la Fièvre Jaune.*

Non verbis, sed factis.

The name of M. Chervin has become so blended with the subject of yellow fever, and consequently so well known to every one, that we deem it unnecessary to apprise our readers of the character of this gentleman, and of his devotion to the cause which, after many years of close and accurate investigation, he has espoused. The journey of this amiable and learned physician through the United States will long be remembered by those who had the good fortune to become acquainted with him, and the services he has rendered to science and the public at large are duly appreciated among us. Influenced by this, we have been induced to think, that his numerous friends will thank us for informing them, in this place, of his movements since he left America; of some of the difficulties he has had to encounter in his own country; and of the results of his further researches on the origin and mode of transmission of the yellow fever.

After leaving this country, Dr Chervin visited a second time the greater number of the West India islands, and returned to France about the latter end of 1822. Learning there, that the government had, a short time before, ordered the formation of a large number of expensive sanitary establishments, with a view of guarding against the introduction of the yellow fever; and convinced of the inutility of these establishments, he endeavoured to have them postponed; and with a view of investigating by himself, and on the spot, the facts which had very powerfully contributed in determining the erection of the former, he undertook a journey through those parts of Spain that had been, at various times, visited by the fever. During the two years he spent in that country, he had the fullest opportunities of satisfying himself of the truth of the opinion he had formed, from his reading and his researches in other parts of the world, that the yellow fever of Spain is identical with that of the West Indies and United States, and that, like this, it is free from any contagious property. He discovered that many of the facts alleged by MM. Pariset, Bally and Francois, as proofs of contagion, were unfounded, or if founded, were very erroneously explained by them.

He returned from Spain in 1825, and the next year presented a petition to the chamber of deputies praying for the adjournment of the sanitary establishments already noticed. This petition was referred by the chamber to the minister of the interior, with a request, that he would cause the authentic documents accompanying it to be carefully examined. This occurred on the 11th of March 1826. On the 5th of April next, M. C. not hearing any tidings of the result of this *renvoi*, wrote to the minister, and requested that a special commission should be formed for the purpose of examining the numerous documents which he possesses, and ascertaining whether or not they were calculated to justify an adjournment of the erection of lazarettos destined to guard against the introduction of the disease into France. After some correspondence between M. C. and the minister, the documents were referred to the Royal Academy of Medicine, and this body was requested, as M. De Boisbertrand, the director of Establishments of Public Utility, stated in a letter to M. Chervin, to name a special commission, "for the purpose of examining the numerous documents he had collected on yellow fever, and sanitary measures." In consequence of this request, the academy appointed a committee consisting of nine of its titulary members, who, with a view of extending their examination to papers written in languages with which few among them were familiar, claimed the assistance of nine adjunct members. The committee may justly be said, therefore, to have consisted of eighteen members. About a year was employed by them in perusing all the papers submitted to them by Dr CHERVIN, and on the 15th of May 1827, a voluminous report, written by M. CONTANCEAU, the reporter, was read before a general meeting of the academy. This excellent composition terminated in the following words: "after having examined all the documents placed before it by M. CHERVIN; after having read, analysed, discussed them one after the other, piece after piece; your committee thinks that they merit the most serious attention, and may influence in a powerful manner the negative solution of the question of the contagiousness of the yellow fever, such at least as this question has been understood and discussed up to this day; in a word, your committee is of opinion, to enter within the very terms of the demand contained in the letter of his excellency, that the documents, collected by M. CHERVIN, are calculated to justify the adjournment he has demanded, in his petition to the chamber of deputies, of the formation of the sanitary establishments, projected by the law of the 3d of March 1822, for shielding France against the contagion of the yellow fever." This conclusion appears to have displeased the government; for it in some measure ordered the academy to restrict itself to the question of the cause of yellow fever, and retrench that part of the conclusion that relates to the adjournment of public sanitary establishments, as its opinion on that point had not been asked;—an assertion, contradicted by the tenor of all, and the very words of some of the letters addressed to the academy, and to M. CHERVIN. This met with some opposition on the part of several members; but after a good deal of discussion; after hearing an answer, which, against all the rules of the academy, (since the report had not yet been printed and discussed,) M. PARISET was permitted to read; and after several warm debates, government triumphed, and the part of the report which we have quoted was altered, so as to read as follows: your committee "thinks that the facts contained (in these documents) merit the most serious attention; that they augment considerably the mass of observations favourable to the opinion of the non-contagion of the yellow fever, and that they would be of a nature to contribute powerfully in establishing as a principle, this non-contagion, if, in the present state of the science, this question could be solved."

It is evident, however, from the first version of this report, and from many details mentioned in the various publications before us; but which want of room forces us to omit in this place; that the

Academy of Medicine was well disposed towards the opinion of the non-contagiousness of yellow fever, and that, had not the government interfered, and shown a decided wish to continue, for reasons easily understood, the erection of the sanitary establishments we have alluded to, M. CHERVIN would have definitively carried his point, and the question would have been settled by that body, at least as regards France.

During the time that elapsed between the presentation of this petition, and October 1828, M. C. had to contend against much opposition from some members of the ministry, as well as from several physicians. Thus, M. DE BOISBERTRAND, who, as we have seen, is placed at the head of the sanitary service of the kingdom, having addressed the chamber of deputies at some length, in favour of the contagiousness of the yellow fever, and having made the most erroneous assertions, distorted many facts, &c. M. C. published an answer to this speech. This essay, the title of which will be found at the head of the present article, may be offered as containing an unanswerable refutation of all the positions which M. B. had assumed.

M. AUDOUARD, who in 1821 had been sent by the minister of war to investigate the causes and nature of the yellow fever then prevailing at Barcelona, and who has espoused the idea of the contagiousness of the disease, entered the list of the opponents of M. C. and published one or two pamphlets, with a view of defending many facts he had adduced in support of his views, but which M. C. had shown to be either false or improperly explained. Two short essays were sufficient to silence this weak and tiresome opponent. M. GERARDIN, formerly secretary of the Medical Society of New Orleans, and who, as some of our readers may perhaps know, has written for and against the contagion of yellow fever, stepped forward and undertook to prove that the part of the report (of the committee) which concerns America is a complete failure, and should be written over again, and that M. C.'s documents on that point are far from being correct and exact.

M. C. thought it necessary to reply to this philippic, and such has, no doubt, appeared in the mind of M. G. the force of the arguments and the unanswerable nature of the facts adduced in the short pamphlet published by him that the other has never since opened his mouth at the academy, or taken up the pen with a view of defending his opinion, or himself against certain allegations that were calculated to gall him to the quick. Even a distinguished physician of this country has undertaken, in a letter published in the French papers, to invalidate some of Dr C.'s statements. When we last heard from this gentleman, he was engaged in writing an answer to the above mentioned letter, and from all we know of his talents, and from the superiority of his cause, we have no doubt that our countryman will have no more reason to be satisfied with the results of his attack, than M.M. Audouard and Gerardin appear to have had with those of their own.

While this was going on; while the Royal Academy of Medicine was yielding to the government, and some of its members, through fear of a threatened dissolution of that body, appeared willing to decide against conclusions they had before approved of, the Academy of Sciences adopted a more independent, liberal, and honourable line of conduct. The committee appointed to distribute prizes, bequeathed by Baron Monthyon to the authors of the most useful works presented during the year, unanimously awarded, notwithstanding the intrigues of many antagonists, and, we regret to say of one of our own countrymen then at Paris, a prize of 10,000 francs to M. C. for a manuscript essay which he handed to the academy, and which contained an account of his labours on the subject of the yellow fever. In the year 1828, the fever having appeared at Gibraltar, M. Chervin requested the government to send a number of commissioners to that place, for the purpose of investigating the causes and nature of the disease; of ascertaining whether it was of foreign or domestic origin; and whether or not it was endowed with contagious properties. After much difficulty he succeeded in attaining the object of his demands, and was himself selected as the chief of the commission by the minister of the interior. In company with his two colleagues, one of whom had, like him, been named by the same minister, the other by the Academy of Medicine, M. Chervin left Paris about the month of October, and reached Gibraltar the month following. In a letter, dated Gibraltar, January 5th, 1829, and addressed to the writer of this article, he positively affirms that the fever which had prevailed in that place, was identical with that which occasionally prevails in the United States. "It has been asserted," he remarks, "that the fever was imported from the Havanna to this town, in a Swedish vessel; but this assertion is not corroborated by any well authenticated facts; and all the stories that have been circulated on the subject have been shown to be destitute of foundation. I have every reason to believe that the contagionists will not be more fortunate in their subsequent efforts to establish the truth of the opinion. All the English physicians, residing at Gibraltar believe that the disease in question has originated in the place from the action of local causes. Drs Pym and Broadfoot are the only ones, to my knowledge, who entertain a different view of the subject; but the former is superintendent in chief of quarantines in England, and the second health physician at Gibraltar." In a subsequent letter, dated the 25th of June last, he remarks, that all the observations made by him have only served to confirm him in the opinion he offered in the preceding letter, relating to the origin and mode of transmission of the fever that had reigned at Gibraltar. He adds that this view of the subject is strongly corroborated by the very important documents he has lately received, and that it will be, he has no doubt, still more so by other papers he expects to get in a short time. "The numerous surgeons of the garrison are almost all non-contagionists, and furnish me with the greatest liberality all the documents necessary to show the origin and character of the epidemic they have lately had occasion to observe; and during which, they have evinced a degree of zeal and activity that merits the warmest praise.

"A commission that had been named by the English government to ascertain the origin of the late epidemic, has terminated its investigations, the results of which have been very favourable to the opinion of the local origin of the disease; and that too notwithstanding all the efforts which Dr Pym has made to sustain his former opinions, relating to contagion and importation. Had it not been for the vigilance and firmness of several honourable members of this commission, the erroneous and antisocial doctrine professed by that physician would have been much strengthened; whereas it has just received on the rock of Gibraltar a blow, from which I hope it will never recover. This would probably be the right place for apprising you of the opinions of my colleagues, Drs Louis and Trousseau, on the same subject, but this would be rather difficult, inasmuch as they say every where that they have none; that they do not know whether or not the fever they were sent to investigate was contagious, and whether it originated from local causes or was imported. The French government having sent M. Trousseau, at my solicitation, because he was a contagionist, it is no small matter, that he should return from Gibraltar in a sort of neutrality; that he should not have found, notwithstanding all his researches, facts of a pretended contagion, sufficiently positive to allow him to come to some definite conclusion. As for Dr Louis, you already know that he is a great partizan of the ancient medical doctrines, which admit the contagiousness of the yellow fever as an article of faith. It is not astonishing, therefore, that he should remain in a state of uncertainty respecting the route he is to follow.

"In consequence of this uncertainty on the part of my colleagues we shall not be able to write a common report. They merely wish to publish the documents we have collected, without any comments, discussion or judgment on the various facts. As regards myself, I cannot be contented with presenting a simple collection of documents. I shall publish all the facts alleged in favour of and against contagion. I shall discuss them, and arrive at conclusions which I know will be precisely conformable with those that may naturally be drawn from all my previous observations."

We cannot close this article without expressing on our part, as on that of many friends, the most sincere wishes for the success and future happiness of a man, who may justly be cited as a rare example of disinterested zeal and ardour in the cause of truth.

ARTICLE XIV.—*Ricerche Chimico-Terapeutiche su la Radice di Poligala Virginiana. Di* GIACOMO FOLCHI, *P. Prof. nell' Archiginnasio Romano e Medico primario in S. Spirito.*

Clinical and Therapeutical Researches on the Root of the Polygala Virginiana. By GIACOMO FOLCHI, *Professor in the University of Rome, Chief Physician to the Hospital of San Spirito, &c.*

The author of this pamphlet is already advantageously known to our readers for his communication on the origin of the periodical fevers of Rome, &c. published in the fourteenth number of this Journal.

We have at all times regretted that our analytic chemists should so entirely have neglected to investigate the component parts and chemical properties of our indigenous medicinal plants. Such an utter indifference is unexampled in any other country. What an extensive field still remains open to the inquisitive, what a harvest of renown yet awaits the industrious chemist. Of the long catalogue of our medicinal plants, only a few have as yet undergone a careful examination. Must we wait for the European chemist to do for us that which we ourselves ought to communicate to the scientific world? These reflections have been suggested by the perusal of Dr FOLCHI's experiments, and we could not help regretting that he should furnish another illustration of the fact, that if we possess a correct analysis of an American plant, we are indebted for it to an European chemist.

Dr F. was struck with the beneficial and powerful therapeutical properties of the polygala, and could not rest satisfied till he had ascertained its chemical characters. In order to arrive at a correct result, he instituted, on the different parts of the plant, a long series of careful and well devised experiments; and from these was enabled to discover, that it contains a thick oil, partially volatile; free gallic acid; a trace of wax; an acrid matter; a yellow colouring matter; a gummy extractive principle; a matter containing nitrogen, similar to gluten; lignin; sub-carbonate, hydrochlorate, and sulphate of potassa; carbonate, sulphate, and a little phosphate of lime; carbonate of magnesia; iron and silex.

M. DULONG D'ASTEFORT was at the same time performing similar experiments in France, and without the knowledge of our author, and has arrived at the same results. M. CAVENTOU, in a notice published in the Journal of Pharmacy, remarks, with respect to the coincidence of the results of the two experimenters, that "the great similarity of the two analyses, executed at the same time, and without the knowledge of either of the authors, greatly militates in favour of the correctness of their results."

M. Gehlen has also analyzed this plant, and found it to contain a peculiar substance, which he called *senegin*, 6.15; resin, 7.5; sweet extractive matter, 26.85; gum and albumen, 9.5; lignin, &c. 50.

Since these researches, M. Peschier, an eminent pharmaceutist of Geneva, has obtained three new substances from the seneka, which he has called *polygalina*, *polygalic acid* and *isolisin*. He further asserts, that the two first named substances form, in the root, a *polygalate* of *polygalina*.

The next point that engages the attention of our author is the difficulty of determining which of the parts thus obtained possesses the active properties. We shall quote a short passage illustrative of the author's therapeutical views: "I shall not hesitate to ascribe the active property of this plant to the *acrid matter*, since it communicates to the whole root that distinctive character of an acrid nauseous taste, to which nothing similar is to be found in all the other families. I do not deny that the gallic acid and the rancid oil may assist in imparting this taste to the root; but in all cases the acrid principle is that which predominates, and which imparts to the fauces the highly virulent impression which it always produces. It seems to me probable, that the same impression which it causes on the palate and fauces, must also be produced in the stomach; indeed, it appears almost certain that it takes place, since we observe that nausea and vomiting often follow the exhibition of the infusion of seneka. What kind of impression on the *living* organism is this? Does it exalt or depress the vital forces, or only disturb the vital movements? Is it confined to the stomach, or propagated to the nervous and vascular systems? Whoever recalls to mind the species of affection, in which I remarked that the polygala has proved advantageous, must conclude without hesitation that I place it in the class of *depressing* remedies. I would wish, however, that physicians would discriminate between the impression that this or any other remedy excites on the stomach immediately after being ingested, and the secondary therapeutical effect which is only its consequence. I cannot convince myself that an extremely acrid and nauseous article, like the polygala, should abate and depress the vital action of the stomach; and still less can I persuade myself of it, when I observe the inverted motion of this organ amounting even to nausea and vomiting. But may not a beneficial effect occur on a neighbouring organ by the irritation of the stomach produced by the action of a remedy, even if this viscus should still be affected by a remainder of inflammation? I shall not stop to explain how this happens; and should I even say that an irritation produced in an organ generally diminishes and extinguishes the morbid irritation of a neighbouring one; that the very same artificial irritation propagated through the nerves of communication to the lungs, might somewhat excite the yet engorged, capillary vessels, being the result of the phlogosis inclining to a resolution; if I should advance these or similar explanations, I should only utter mere conjectures. Indeed, the action of remedies on the living solids, and the relations of their effects to the first impressions, have been and perhaps will always remain a mystery. However, observation points out to me, that an irritating remedy or one which disturbs the organic functions may produce depressing effects; and this is exemplified, according to my opinion, by the exhibition of small doses of ipecacuanha, or some of the antimonial preparations, of the drastic remedies and so on. Consequently, I should be inclined to consider the root of the polygala senega, as possessing an irritating action over the fibres of the stomach, by which irritation a resolvent effect is produced in the chronic phlogoses of the pulmonary mucous membrane, or in the parenchyma itself. The action of the polygala is rapid, and is quickly conveyed from the stomach to the lungs, and since the absorption of very acrid substances is not easily effected, I should be disposed to believe that its influence is communicated rather through the nerves than by means of the lymphatic or vascular systems."

Quarterly Summary

of

Medical and Surgical Intelligence.

I. ANATOMY.

1. ***Rudiments of a Fœtus found in the Testicle of an Infant six months old,*** by M. J. **Wendt**.—The *Journal Universel des Sciences Médicales* gives the report of a case, from which the following particulars are extracted. The wife of a blacksmith in a village near Glogau, was delivered of a male child in December 1817. The infant was well made, and healthy. In May 1818, it came under the care of a surgeon, who discovered a hard tumour of the right testicle, with a congenital phymosis, which was cured by an operation. In the month of June, the diseased testicle had become so large as to descend quite to the knees. The tumour was cold, unequal, hard, and very sensible to the touch. It was removed by an operation in July; and the child, without the occurrence of any unpleasant symptom, was perfectly restored to health in less than a month. The extirpated testicle weighed about seven ounces. Its parenchyma was filled with an oily, ichorous, or yellow fluid. The epididymis was entirely wanting. When the tunica vaginalis was opened, a hard body was discovered, which proved to be a thigh bone deprived of periosteum. The bones of an imperfect pelvis were found along with it, connected together, and mingled with cellular tissue, and muscular fibres. The rudiments of the lumbar vertebræ, and a lower extremity composed of skin, muscles and bones, but exceedingly deformed, were also recognised. The other parts of the body appear to have been wanting.

2. ***The Epiglottis in Infants.***—M. **Maingault**, while engaged in researches upon the use of the laryngeal tube, discovered an anatomical peculiarity, which [illegible] the opinion of those who maintain, that there are great difficulties in the way of using this instrument in infants. The epiglottis in infancy is far from possessing the proportional volume and extent which it presents in the adult. He compares it in size and shape to a very small leaf of myrtle, and adds that it only very imperfectly covers the glottis. It never opposes the least obstacle to the passage of a sound or tube into the laryngeal cavity.—*Journal des Progrès*, Vol. III. 1829.

3. ***A Woman with Three Mammæ.*** *By Dr* **Drejer**.—A woman who had been brought to bed for the first time, was observed to possess, besides two mammæ of the usual size and well filled with milk, a third, smaller than the others, and situated near the left mamma, from which it was separated only by a slender furrow. This supernumerary breast, though without an areola, had a nipple, a kind of [illegible] pierced in the centre, from which even slight pressure produced a jet

of milk. A fact somewhat remarkable is, that while the infant sucked at the breast above, milk flowed spontaneously from this nipple.—*Nouvelle Bibliothèque Médicale, March* 1829.

II. PHYSIOLOGY.

4. *Atrophy of the Right Hemisphere of the Brain.*—The Journal de Physiologie for January contains a communication from M. Piorry, of which the following abstract will not be found without interest to our readers. A man named Vacquerie, aged 29 years, was admitted into L'Hospice de Bicêtre, with hemiplegia of his left side, which, according to his own account, was congenital, but might possibly have resulted from severe disease of his brain in early life. On this point no satisfactory information could be derived from his relatives. About nine years afterwards, February 1828, he entered the Infirmary of the Bicêtre with an affection of the respiratory organs, attended with cough, pain in the side, and fever. These symptoms were relieved for a time, but soon reappeared, and terminated in phthisis, of which he died in January 1829.

The intellectual faculties were preserved to the last moment; and he was conversing with a pupil of the institution about his sufferings immediately before his death. During his residence in the infirmary he had not displayed a want of the ordinary degree of intelligence. The limbs of the paralytic side were deformed, and he had been under the necessity of using crutches when he walked.

. Great emaciation, tubercles of the lungs, a large heart, of which the right cavities were dilated and thickened, hypertrophy of the liver, and some slight traces of gastritis, were the derangements of organization connected with the diseased condition of system which preceded his death.

The cranium had the same form on both sides, with the exception of a very slight depression on the right. It was of the natural consistence and the usual thickness; but the depressions on the internal surface on each side, corresponding with the ordinary convolutions of the brain, were but slightly perceivable.

A considerable effusion existed between the cranium and the brain, or beneath the dura mater, which was thought to be identical with the cephalo-spinal fluid to which M. Magendie has called the attention of the profession. This fluid occupied the place of the right hemisphere, which was in a state of complete atrophy, being reduced to a simple membranous layer. It was nothing more than a soft, greyish, pulpy tissue, entirely different in its appearance from the brain in its healthy state. There remained of the brain on the right side, only the optic thalamus and the corpora striata, which were both in a state of atrophy, manifestly hardened, sounding under the scalpel, and of a uniform greyish colour, very unlike that arrangement of white fibres and grey matter which characterizes them in their natural condition. The remainder of the brain was sound, and the cerebellum had preserved its integrity. It was reported to the author that the corpora pyramidalia and olivaria, the tubercula quadrigemina, and the optic and olfactory nerves of the right side were in a state of atrophy: but the state of the parts at the time he examined them, was not such as to allow him to verify these facts by his own observation. The spinal canal was not opened.

The following reflections, among others, occurred to M. Piorry, in connexion with the facts which have been detailed.

The circumstance that the cephalo-spinal fluid was found supplying the place of the absent hemisphere, affords a new support to the opinions of M. Magendie on this subject. Indeed, the increase of this fluid must necessarily follow the diminution of the volume of the nervous pulp.

It is somewhat singular that the cranium should have preserved its form, notwithstanding the want of cerebral matter on the right side. Has the development of the bones a fixed relation to the nervous centres which correspond with them? Or was the presence of the cephalo-spinal fluid the cause of the preservation of the form of the cranium.

Though the convolutions of the brain on one side were wanting, yet the ordinary projections and depressions on the surface of the cranium were observable. How will Gall and his followers explain this fact? Would an examination of the cranium in this case have furnished indications of the physical state of the brain?

The right optic nerve was in a state of atrophy; yet the vision of the right eye was not lost: the optic thalamus, and the right pair of the tubercula quadrigemina were in a similar condition; yet the sensibility to light was not impaired on the left side. Does it not follow that the fifth pair of nerves has more influence on vision than was believed before the time of Magendie?

From the fact that the optic nerve affected was on the same side with the disordered thalamus and tubercula quadrigemina, it may be inferred that, in the propagation of organic lesions, the action does not extend from one side to the opposite in the supposed course of the fibres, as is the case with the functions.

5. *Contractile Force of the Arteries.*—In the same number of Magendie's Journal, from which the above abstract was taken, is a report of experiments by M. Poiseuille, by which the author thinks he has proved, that the force with which the arteries, after their dilatation by the impulse of the blood proceeding from the heart, resume their former dimensions, exceeds the force which occasioned their expansion. He is thus enabled to explain the fact, which he had demonstrated in a previous paper, that the velocity with which a molecule of the blood moves in its route through the arteries, is precisely the same at whatever point of its passage it may be considered. The impulse derived from the heart is not only wasted in dilating the vessels, but is also diminished by the friction of their internal surface. In order, therefore, to maintain an equability of movement in the blood, it is necessary that the power of contraction in the artery should be so much greater than the expanding impulse, as to counterbalance this force, and the influence of friction united. Such an excess might be readily allowed upon the principle of a vital contractility in the artery analogous to that of the muscular fibre: but the conclusion at which the author wishes to arrive is, not only that the contractile power exceeds the expanding force, but also that it is merely passive, the result solely of the elasticity of the coats of the vessel. To us it appears difficult to conceive the possibility of such a state of things; and, admitting the correctness of the experiments of M. Poiseuille, which were made upon portions of the carotid artery of a horse removed from the body, we are inclined to attribute the excess of the contractile force to some remains of vitality in the vessel, similar to that which enables the muscles of certain cold-blooded animals to contract, upon the application of irritating substances, long after their separation from the body of the animal. Indeed, we are informed by the author that this excess of contraction in two portions of the carotid; on one of which he experimented immediately after its removal from the horse, on the other at the expiration of four days; was about as twenty-four to four, being six times greater in that portion in which it may be presumed that the remains of vitality were most considerable.

6. *Emphysema of the Lungs.*—From the riches of the same valuable Journal, we derive the following observations, condensed from an interesting paper by M. Piedagnel. Contrary to the generally received opinion, the lungs either of man, or of the inferior animals, in a perfectly sound state, do not crepitate upon being handled. If the lungs of a dog which has died without any violence of respiration, or of an infant which has lived only a few hours, be examined, they will be found soft and flaccid, and will present, upon being pressed, no sign of crepitation. That these organs are so often observed to crepitate in the human subject, is attributable to the laborious breathing which frequently takes place in the agony of dissolution, particularly in cases of prolonged and painful death, and where disease of the brain or lungs has caused obstruction of the respiration. The phenomenon, whenever it is observed, is, in the opinion of the author, owing to the existence of emphysema, produced by the rupture of the air-cells,

and the escape of air into the intervening cellular tissue. This may be readily effected by forcing air into the lungs artificially. Thus if the lungs of an infant be inflated with some force, they will be found to have lost their former soft and flaccid condition, and to crepitate when cut or handled. The same thing frequently happens in disease, especially, as before mentioned, near the close of life, which it thus tends to shorten. Indeed, the author thinks that many instances of death, for which no cause has been discoverable upon dissection, may be justly attributed to the occurrence of emphysema of the lungs, occasioned by difficulty of respiration; and in illustration of this opinion two cases are mentioned, in which the patients died suddenly after some slight affection of the lungs, which, upon a post mortem examination, were found to crepitate, in consequence, as the author supposes, of their emphysematous condition.

Emphysema may also be produced by air entering into the bloodvessels, and reaching the lungs through the circulation. We may thus account for the sudden death which follows the artificial injection of large quantities of air into the veins of animals; and the author explains in the same way the fatal issue of two operations at the root of the neck, in which the jugular vein was opened, and air admitted into the bloodvessels.

Emphysema may occasion death either instantaneously by complete disorganization of the lungs, or slowly by impeding the due action of the atmospheric oxygen upon the venous blood, and thus preventing that degree of sanguification which is essential to the continuance of life.

7. *Transmission of the Vaccine Disease from the Mother to the Fœtus.*—The *Journal des Progrès* relates, from a Swedish journal, the following interesting fact, which, though first recorded so long ago as 1817, does not appear to have reached the periodicals of this country. The statement is given on the authority of a pastor of a village near Umea, in whose parish the event occurred, and who was led to make particular inquiries into the subject by the request of the Academy of Sciences of Stockholm.

A woman aged 21 years, and pregnant for the first time, was vaccinated on the 3d of April 1813. Nine days after the vaccination, while the vesicles were at their height, she was delivered of a healthy daughter, who was soon afterwards carried two leagues from the residence of her parents to be baptised. The infant was fed with fresh cow's milk, and grew finely. In the mean time it was observed that regular vaccine vesicles had made their appearance on the arm, in the same number and on the same spots with those of the mother, which they also resembled in all other respects, arriving at maturity at the same period, and leaving similar cicatrices behind them. The child continued to do well for six weeks, when it died of an accidental affection of the stomach and breast, after a sickness of three days.

8. *Partial Loss of Memory.*—In HUFELAND's Journal for December 1828, it is stated, that the late Dr SCHŒRF, physician to a German prince, and author of several respectable medical works, upon his recovery from a severe and dangerous attack of fever, found that he could not recollect a word of Latin, though in all other respects his memory was perfect. He felt no little anxiety to discover how he should manage to write his formulæ for the future: but after a few days of convalescence, Latin words gradually presented themselves to his memory in proportion as his physical strength was increased, so that by the time he was perfectly restored to health he had become as good a latinist as before.

The editors of the Revue Medicale observe, in reference to this case, that they are curious to know how the partisans of GALL will explain this singular fact of mental aberration; and pertinently ask, whether there may be a special organ for the remembrance of Latin words?

III. PATHOLOGY.

9. ***Phlebitis. Inflammation of the Left Spermatic Vein and Sinuses of the Uterus.***—This case is related by Dr R. LEE in the London Medical Gazette. It occurred in a female 40 years of age, after a natural labour of three hours duraduration. Two days subsequently, September 20, 1827, the patient experienced a violent chill, promptly succeeded by an acute pain at the hypogastric and lumbar regions. The lochia were suppressed, with nausea, great thirst and an increased heat of the skin. Towards evening delirium and some degree of coma were present. 21st. The patient was with difficulty awakened; she then complained merely of pain in the left iliac region. The abdomen was considerably swollen, but without hardness or tension. Upon pressure pain was experienced between the left iliac region and the umbilicus. The uterus could be felt above the brim of the pelvis; it was still enlarged, being hard and very painful to the touch. The secretion of milk was suppressed. The face was pale and expressive of anxiety; the respiration hurried; the pulse weak, intermittent and one hundred and thirty in the minute. The tongue was white and humid. The bowels were evacuated by a dose of castor oil. Bleeding was attempted from the arm, but only ten ounces of blood could be obtained; twenty leeches were then directed to the hypogastrium, and every four hours the pulvis antimonialis and calomel. 23d. The stupor has increased, as also the pain and tension of the abdomen. The respiration is more painful and accelerated; the pulse very rapid, weak and intermittent. Towards evening, complete coma. The patient expired the next morning. *Sectio cadaveris.* The abdomen was found to be slightly distended with gas; there was, however, not the slightest trace of inflammation upon the peritoneum, nor was any fluid found in the cavity of the latter. Upon separating the intestines, the left spermatic vein was discovered, so distended with blood as to equal in size the vena cava; this distention extended from the uterus until the union of the vessel with the left emulgent vein. The surrounding cellular tissue was injected and adhered intimately to the exterior tunic of the diseased vein. On opening the latter, it was found to be filled with a black and solid coagulum, attached to the internal surface of the vessel only towards its termination, where it was lined by a layer of coagulable lymph. The coats of the vein were thicker and more firm than ordinary; the internal membrane being of a scarlet red colour. This was also the case with the veins at the upper part and left side of the uterus, where the placenta had been attached. At this part the substance of the uterus was of a deep livid colour, and so soft as to be readily torn by the fingers. The ovary and fallopian tube of the same side were also very soft and of a deep red colour: their surface was covered with adherent shreds of coagulable lymph. The left renal vein was in the same state as the spermatic. The substance of the kidney of the corresponding side was softened and injected. The other abdominal viscera were healthy. In the thorax nothing remarkable was detected. The brain was not examined.

10. *Lumbar Abscess opening into the Bronchia.*—On the 13th of January of the present year, M. GERARDIN made a report to the Royal Academy of Medicine, upon a case communicated by M. CANTEGRIL, physician to the Hospital of Murat, of an abscess of the left lumbar region, accompanied with fever, in which pains were experienced extending over the whole left side of the chest, with difficulty of respiration. It had been determined to evacuate the contents of the abscess by an incision; when suddenly, during a fit of coughing, the patient discharged by expectoration a quantity of matter estimated at about two pints. The tumour in the loins disappeared, and in the place where it had existed there was felt a vacuity caused by the escape of the contents of the abscess. The hand being applied over this part, a kind of tremulous sensation was experienced, attributed to the admission of air into the cavity. The result of the case is not given. The reporter considers it as the only one of the kind upon record. He compares it with a case of an opposite kind, contained in the ac-

count of the labours of the Royal Society of Medicine at Bourdeaux for 1818, in which a lumbar abscess opened exteriorly, and gave place to an abundant discharge of matter, which, the examination of the body after death, proved to have been derived from a tuberculous vomica developed within the pleura.—*Bibliothèque Médicale, March* 1829.

11. *Chorea.*—Jane Wilson, aged 16, had the ordinary symptoms of chorea in the beginning of January 1829; she dragged the *left* leg considerably in walking, and had the gesticulations customary in that disease in the arm of the *same* side. The tongue was furred; the bowels were torpid; the complexion was pale and unhealthy; the pulse frequent; there was apparent hebitude of intellect, and she felt giddiness and pain of the head. Several leeches were applied to the temples, and purgatives were prescribed. From circumstances Dr Brown, by whom the case is reported, did not see her again until the 29th of the month, when she was brought to the Sunderland Infirmary, in general and violent convulsions, and placed under his care. She was very largely bled from the arm and from the temporal artery; leeches and cold were applied to the head; calomel and other strong purgatives, and subsequently oil of turpentine, both by mouth and in enemata, were administered. On the 6th of February, the catamenial discharge having appeared, there was a cessation of the convulsive movements, which, till that time, had been almost incessant, and so violent, that the patient had been kept in bed only by being firmly bound to it. Her intellect, which had been almost entirely obscured even in the short intervals of the convulsions, became so far clear that she answered questions correctly; she complained much of pain in the head; the circulation was quick and rather forcible. The menstrual discharge ceased on the 8th of February; and on the following day there was a renewal of all the violent symptoms. The same remedies were adopted but without avail; the poor girl becoming comatose on the night of the 11th, and dying early on the morning of the 12th.

Appearances on dissection.—The whole surface of the brain was unusually vascular. Some *lymphoid* serum was effused between the arachnoid coat and pia mater; the lateral ventricles contained half an ounce of serum; the choroid plexus was unusually vascular; the vena galeni and sinuses of the dura mater were full of blood. But the most remarkable appearance connected with the brain was a calcareous concretion in the medullary substance of the *left* hemisphere. This body was of an irregular cubic form, and each of its sides measured about half an inch. The thoracic and abdominal viscera were perfectly healthy; there was a small hydatid formation adhering to the right ovarium.

"I beg to remark," says Dr B. "that this is the third case of fatal chorea which has fallen under my observation; or at least (that I may obviate a verbal cavil) the third case in which the partial convulsions designated by this term have passed into general convulsions, coma and death; but in the present instance only, have I had an opportunity of illustrating the pathology of the disease by examination after death. The result of this examination, the mode in which life is terminated, the symptoms of the disease whilst the convulsions are only partial, and the effects of remedies upon it, lead me to the conclusion, that it arises more frequently from direct irritation of the brain with increased influx of blood thither, than merely from sympathetic excitement of this organ."—*Med. Chirurg. Rev. July* 1829.

12. *Carditis under the form of Chorea.*—In Hufeland's Journal for November 1828, a case is related by Dr Roeser of Wurtemberg, in which carditis is said to have simulated chorea. But it would appear to us to be more correct to say, that it was a case in which both diseases existed at the same time. The symptoms of carditis, however, were during life certainly very obscure.

A girl nine years of age, slender, and of a delicate constitution, on the 25th of November 1827 was suddenly affected with a profuse epistaxis: this continued several hours, and was not arrested until fainting was produced. It returned two days subsequently. Before the first attack of the hemorrhage, the little patient [illegible] December ensuing, the [illegible] convulsive gest- [illegible] and in the [illegible] walk not [illegible] attributed [illegible] with a stam- [illegible] Sinapisms were [illegible] had [illegible] convulsive movements con- [illegible] small and [illegible] slight yellow [illegible] treatment was now determined [illegible] administered. A [illegible] During the night the patient [illegible] The respiration very rapid [illegible] coloured, tongue moist, [illegible] urine red and [illegible] Death [illegible] *Appearances upon Dissection.* [illegible] The scalp [illegible] being detached from the cranium pre- [illegible] probably [illegible] The vessels of the dura mater were uncommonly numerous and turgid with blood. Between the arachnoid membrane and pia mater was contained an exudation of a fluid which caused the surface of the brain to appear as though it had been covered with a thin layer of gelatine. The ventricles of the brain contained more fluid than customary. The [illegible] a small quantity of serum escaped from the [illegible] was enveloped with a fine vascular net work. The substance of the brain was more soft than ordinary. On opening the thorax the attention was immediately arrested by the heart and distended [illegible] of the pericardium. The lungs presented upon their surface various [illegible] membranous and partly resembling flesh to the extent of [illegible] these had evidently existed for a considerable time. Upon [illegible] the greater part of the lungs, particularly ante- [illegible] several lines in thickness; this was in the greatest quantity around the pericardium, which adhered in consequence to the surrounding parts. The latter exudation, evidently the product of the disease under which the patient laboured immediately preceding death, was [illegible] distinguished from the membranous and flesh-like productions already alluded to [illegible] The anterior mediastinum was [illegible] gelatinous effusion. The substance of the lungs was [illegible] The greatest part of the pericardium [illegible] adhered to the lungs, [illegible] four or five ounces [illegible] The tissue and internal surface of the [illegible] To the latter surface there adhered an exudation [illegible] formed apparently of black coagulated blood. A similar exudation of black blood, but to a less extent, existed [illegible] of the pericardium, the parietes of which were throughout upwards of three times as thick as is usual in an infant of the same age as in the present. The remainder of the internal surface of this membrane was lined with numerous [illegible] formed by an exudation of lymph, upwards of half an inch in length, and in close contact with each other. Posteriorly the pericardium adhered to the heart so completely, that it could not be separated from it without tearing. The whole heart was covered with a reddish fibrous exudation, several lines in thickness, from which arose numerous fibrous prolongations, &c. This exudation could not be removed without cutting: the substance of the heart appearing to be disorganised, and as it were continuous with it. The heart presented exteriorly no difference between its right and left side; it had the appearance only of an irregular mass. At its summit there was a black spot more smooth than the rest of its surface. The muscular substance of this organ was of a pale red, the mitral, tricuspid and semilunar valves were rose coloured. The left ventricle contained a soft polypous concretion. Upon a minute examination, it was found that the foramen ovale was not, as it at first appeared, entirely closed; an opening sufficiently large to admit a quill, still existed; but so exactly closed by the valve, as to preclude the possibility of any mixture between the black and red blood having taken place during life. The abdominal viscera were all healthy but of a pale colour.

18. *Spontaneous Combustion of Both Hands.*—The following case of spontaneous combustion from the Arch. Général. de Médecine for March 1829, is superior in point of authenticity to any yet recorded. A gentleman of a robust, healthy constitution and temperate habits, 24 years of age, extinguished with his hands the burning clothes of his brother, who had accidentally set fire to them with sulphur, and was immediately afterwards attacked with such acute pain in both hands as to compel him to cry out for assistance. A woman, who came to his succour, observed that both hands were surrounded by a blue flame. This at first was supposed to be occasioned by the sulphur adhering to them, and an attempt was made to extinguish the flame with cold water; but without effect. The gentleman then ran down stairs, to a cutler's shop, and plunged his hands into a quantity of mud; from this he derived very little relief. After suffering in this manner much torture for half an hour, he ran to the house of Dr Richond-des-Brus, by whom the case is related. On the way both he himself and the woman who accompanied him, observed distinctly the blue flame surrounding the hands. The physician met him at the door, and observed the hands to be red, swelled, and exhaling a kind of smoke or vapour.

He immediately directed his patient to plunge his hands into a well which was opposite, and to keep them there until he experienced relief. On his doing so, the pain abated considerably, and the flame ceased. But he had not gone more than a hundred and fifty paces homewards, when they re-appeared. On reaching his dwelling he immersed each of his hands in a bucket of water, which, as it got rapidly heated, he had repeatedly renewed. As often as he took them out of the water, he remarked a sort of unctuous matter flow along his fingers, and the blue flame re-appeared; the latter was not, however, visible, except in a situation where the light of the candle was shaded, as under the table. A young gentleman who remained in the room with him, saw the blue flame several times in the course of the night. Towards day-break sparks only were visible. During the succeeding day the pain was very severe; and large vesications, filled with a reddish serum, had formed on the fingers; in some places indeed the cuticle was entirely removed, and the cutis grayish and corroded. The vesications being opened, cerate was applied to the denuded surfaces, and the whole covered with poultices. The inflammation which followed was moderate, the suppuration healthy and in six weeks the ulcers caused by the burning were entirely healed; but the cicatrices were very distinct, and several of the nails had dropped off.

"If," observes the relater, "the flame had been perceived only immediately after the burning of his brother's clothes, it might have been supposed to have resulted from some portions of burning sulphur adhering to the skin. But it resisted the effects of repeated cold affusion, and of protracted immersion in cold water: it continued all night, and was spontaneously reproduced after having been extinguished in the water of the well. It was at first so bright as to astonish those who witnessed it, and to cause the female who first saw it to say that the hands burnt like candles. Such an explanation, therefore, is quite untenable. Although, when the patient first reached my house, I only saw a kind of smoke, yet it must be remarked, that I had a candle in my hand at the time and my servant another, so that the pale light emitted by the hands, may have been then present, but eclipsed by the superior light of the candles. If it was more visible on his return home, this might clearly have arisen from its being brighter, as well as the apartment darker. To what then should this combustion had not been affected with any disease. On the 1st of December ensuing, the mother observed the child to be affected with involuntary and convulsive gesticulations of the head and limbs. These augmented from day to day, and by the 7th of the month were to such an extent, that the patient could neither walk nor stand. Dr R. was now called in. He recognised at once, in the symptoms under which the child laboured, those of the most violent chorea, which he attributed to the great loss of blood which she had experienced. The patient, with a stammering voice, complained of pain of the head, *heart* and limbs. Sinapisms were directed to the legs and to the præcordia; the mother of the child being too poor to obtain other more appropriate remedies. Dec. 9. The pain at the præcordia had ceased, but was still experienced in the limbs. The convulsive movements continue with great violence. There is entire loss of sleep; the pulse is small and accelerated, the tongue coated with a yellow fur, and the urine of a bright yellow colour with a deep red sediment. A purgative treatment was now determined upon: the sulphate of magnesia in an infusion of valerian being administered, a slight evacuation from the bowels was occasioned. During the night the patient was greatly agitated. The next day, general sinking. The respiration very rapid with violent movements of the alæ nasi; the nostrils dark coloured; tongue moist, yellow in the centre, red at the edges; coldness of the surface; urine red and limpid; thirst excessive. Death, 3 o'clock P.M. *Appearances upon dissection*, seventeen hours after death. The scalp on being detached from the cranium presented numerous sugillations, particularly upon the right side, produced probably by the convulsive motions of the head. The vessels of the dura mater were uncommonly numerous and engorged with blood. Between the arachnoid membrane and pia mater was contained an exudation of a fluid which caused the surface of the brain to appear as though it had been covered with a thin layer of gelatine. The ventricles of the brain contained more fluid than customary. The plexus choroides was of a pale red. A small quantity of serum escaped from the vertebral canal, and the medulla oblongata was enveloped with a fine vascular net work. The substance of the brain was more soft than ordinary. *On opening the thorax the attention was immediately arrested by the black and distended appearance of the pericardium.* The lungs presented upon their surface various exudations, partly membranous and partly resembling flesh, to the extent of about an inch each: these had evidently existed for a considerable time. Upon these exudations as well as upon the greater part of the lungs, particularly anteriorly, there existed a gelatinous, bloody exudation, several lines in thickness; this was in the greatest quantity around the pericardium, which adhered in consequence to the surrounding parts. The latter exudation, evidently the product of the disease under which the patient laboured immediately preceding death, was readily distinguished from the membranous and fleshlike productions already alluded to, and which were disposed in patches. The anterior mediastinum was filled, in great part, by this gelatinous effusion. The substance of the lungs was healthy. The two pleuræ contained several ounces of blood. The greatest part of the pericardium lay upon the right side of the chest; it adhered to the lungs, in nearly the whole of its circumference. On being opened, four or five ounces of bloody serum escaped from its cavity. The tissue and internal surface of the right half of the pericardium were perfectly black. To the latter surface there adhered an exudation of some lines in thickness, formed apparently of black coagulated blood. A similar exudation of black blood, but to a less extent, existed also upon the internal surface of the left half of the pericardium, the parietes of which were throughout upwards of three times as thick as is usual in an infant of the same age with the present. The remainder of the internal surface of this membrane was lined with numerous villosities formed by an exudation of lymph, upwards of half an inch in length, and in close contact with each other. Posteriorly the pericardium adhered to the heart so completely, that it could not be separated from it without tearing. The whole heart was covered with a reddish fibrous exudation, several lines in thickness, from which arose numerous fibrous prolongations, &c. This exudation could not be removed without cutting: the substance of the heart appearing to be disorganised, and as it were continuous with it. The heart presented exteriorly no difference between its right and left side; it had the appearance only of an irregular mass. At its summit there was a black spot more smooth than the rest of its surface. The muscular substance of this organ was of a pale red, the mitral, tricuspid and semilunar valves were rose coloured. The left ventricle contained a soft polypous concretion. Upon a minute examination, it was found that the foramen ovale was not, as it at first appeared, entirely closed; an opening sufficiently large to admit a quill, still existed; but so exactly closed by the valve, as to preclude the possibility of any mixture between the black and red blood having taken place during life. The abdominal viscera were all healthy but of a pale colour.

18. *Spontaneous Combustion of Both Hands.*—The following case of spontaneous combustion from the Arch. Général. de Médecine for March 1829, is superior in point of authenticity to any yet recorded. A gentleman of a robust, healthy constitution and temperate habits, 24 years of age, extinguished with his hands the burning clothes of his brother, who had accidentally set fire to them with sulphur, and was immediately afterwards attacked with such acute pain in both hands as to compel him to cry out for assistance. A woman, who came to his succour, observed that both hands were surrounded by a blue flame. This at first was supposed to be occasioned by the sulphur adhering to them, and an attempt was made to extinguish the flame with cold water; but without effect. The gentleman then ran down stairs, to a cutler's shop, and plunged his hands into a quantity of mud; from this he derived very little relief. After suffering in this manner much torture for half an hour, he ran to the house of Dr Richond-des-Brus, by whom the case is related. On the way both he himself and the woman who accompanied him, observed distinctly the blue flame surrounding the hands. The physician met him at the door, and observed the hands to be red, swelled, and exhaling a kind of smoke or vapour.

He immediately directed his patient to plunge his hands into a well which was opposite, and to keep them there until he experienced relief. On his doing so, the pain abated considerably, and the flame ceased. But he had not gone more than a hundred and fifty paces homewards, when they re-appeared. On reaching his dwelling he immersed each of his hands in a bucket of water, which, as it got rapidly heated, he had repeatedly renewed. As often as he took them out of the water, he remarked a sort of unctuous matter flow along his fingers, and the blue flame re-appeared; the latter was not, however, visible, except in a situation where the light of the candle was shaded, as under the table. A young gentleman who remained in the room with him, saw the blue flame several times in the course of the night. Towards day-break sparks only were visible. During the succeeding day the pain was very severe; and large vesications, filled with a reddish serum, had formed on the fingers; in some places indeed the cuticle was entirely removed, and the cutis grayish and corroded. The vesications being opened, cerate was applied to the denuded surfaces, and the whole covered with poultices. The inflammation which followed was moderate, the suppuration healthy and in six weeks the ulcers caused by the burning were entirely healed; but the cicatrices were very distinct, and several of the nails had dropped off.

" If," observes the relater, " the flame had been perceived only immediately after the burning of his brother's clothes, it might have been supposed to have resulted from some portions of burning sulphur adhering to the skin. But it resisted the effects of repeated cold affusion, and of protracted immersion in cold water: it continued all night, and was spontaneously reproduced after having been extinguished in the water of the well. It was at first so bright as to astonish those who witnessed it, and to cause the female who first saw it to say that the hands burnt like candles. Such an explanation, therefore, is quite untenable. Although, when the patient first reached my house, I only saw a kind of smoke, yet it must be remarked, that I had a candle in my hand at the time and my servant another, so that the pale light emitted by the hands, may have been then present, but eclipsed by the superior light of the candles. If it was more visible on his return home, this might clearly have arisen from its being brighter, as well as the apartment darker. To what then should this combustion be ascribed? To hydrogen gas? But how could this gas have been generated? We might admit, as probable, that the brisk excitement occasioned by the first burning, caused the disengagement of phosphuretted hydrogen gas, which would inflame on coming in contact with the air. Thus might be explained the trivial nature of the burns. But could we, also, account in this manner for the burning pain felt by the patient all the night after—for the continuance of the discharged gas, and the reproduction of the extinguished flame? Electricity does not seem to me to explain the matter any better." The case is very analogous to one which is related in the *Nov. Journ. de Medecine for Dec.* 1822.

14. *Hypochondriasis dependent on Chronic Inflammation of the Stomach and Bowels.*—M. **Delormel**, in a paper published in a recent number of the Archives, has laboured to prove that melancholia and hypochondriasis are but symptoms or phenomena of chronic gastro-enteritis. The difficulty of distinguishing between irritation and inflammation, and the frequent combination of these two states, give considerable colour, and an air of probability to M. **Delormel**'s doctrine, which is opposed to that of some distinguished continental physicians, who refer hypochondriasis directly to the brain. Here again we are puzzled between primary and secondary affections. If the mental energies become impaired or deranged, it is natural to conclude that the material organ of mind is the seat of the disorder. But this disorder is very often an effect of another disease seated at a considerable distance. In pregnancy, and in some uterine diseases, vomiting occurs. It cannot be doubted that the vomiting is produced by disorder of the stomach; but disorder of the stomach is caused by disorder of the uterus. The same reason will apply to hypochondriasis. Irritation of the stomach will pervert the judgment and the imagination. The *immediate* cause of these perversions is, unquestionably, in the brain; but the primary cause may be in the stomach; and even when moral causes act on the sentient system, and thus disturb the intellectual functions, we do not often find the phenomena of hypochondriasis induced till the digestive apparatus has suffered, and has begun to react on the sensorial energies. It is probable then, that, in a practical point of view, our remedial measures will be most advantageously directed to the chylopoietic organs; since it is through them that we shall be best able to influence the sensorial functions.

The above very pertinent remarks by Dr **Johnson**, we copy from the Medico-Chirurgical Review. The annexed case will furnish food for reflection.

In the month of April M. **Delormel** was called to Madame Chatelain, at the Chateau d'Armanvillers, who, according to the physician in attendance, was "melancholic, hypochondriacal and insane." She had made several attempts at suicide and was carefully guarded. She had been bled, purged, and well dosed with antispasmodics; but to no purpose. M. **Delormel** examined for himself, and came to conclusions very different from those of the ordinary medical attendant. The lady was 37 years old, of a very nervo-sanguineous temperament—active in body, and most amiable in disposition. For more than two years she had complained occasionally of burning heat in her stomach and bowels; digestion was painful, and constipation habitual. The catamenia were irregular and scanty; emaciation progressive; symptoms of melancholia and hypochondriasis well marked. Madame C. now declined all her usual avocations, and kept constantly upon her couch. She could not bear to see her husband or children, to whom she had been, while in health, much attached. Her chief desire was solitude, and the predominant idea was the conviction of approaching death. The lips and tongue were red, with whitish fur in the centre of the latter; the chest sounded well, although she had had a cough for three months; the epigastrium and hypochondria were extremely tender on pressure; pulse small and hard; in the evening, fever; disgust for every kind of food; considerable thirst; pupils much dilated; nose pinched in; eyes hollow; she had missed one period of menstruation. The presence of all these symptoms left no doubt in the mind of the Doctor of the existence of chronic gastro-enteritis. The treatment need not be detailed. We shall only observe that, in the course of five days, 80 leeches were applied upon the epigastric and hypochondriac regions; that warm hip baths, and warm fomentations to the abdomen, were employed; that the patient was kept at first on sugar and water, and gradually allowed barley water and similar food, previously to more solid alimentation. In less than a month this lady had lost her gloomy ideas and her fear of death; and these were succeeded by good spirits and rational ideas. In two months this interesting patient was able to take substantial nourishment, and was restored to perfect health.

15. *Needle found in the Pericardium—Ulcer of the Heart.*—In the April Number of the Nouvelle Biblioth. Médicale, 1829, an interesting case is detailed by M. P. DELMAS, of which the following are the outlines. In the winter of 1823 there was brought into the anatomical amphitheatre of Dr BATIGNE, at Montpellier, a subject, the finely developed muscles and general appearance of which indicated that death had occurred suddenly, and apparently during a state of entire health. The brain and abdominal viscera presented no traces of disease. The lungs retained their natural colour and density. Proceeding to detach the heart from its connections in order to study it separately, M. DELMAS was surprised to find that the cavity of the pericardium was distended by a large quantity of fluid. On cutting into this cavity there escaped about six ounces of blood, the exact colour of which, in consequence of the dissection being made at night, M. D. could not determine. In passing his hand between the pericardium and heart, he felt something prick him; cutting into the pericardium at the place at which the substance which pricked him was situated, he perceived that the membrane formed there a small fibrous tumour; in this was contained a portion of a steel needle, the point of which was directed towards the heart, and projected beyond the tumour about two lines. It was so firmly fixed in the substance of the membrane, as to require several efforts before it could be extracted. "It was now," observes the relater, "easy for me to perceive from whence the effused blood had been derived. Directing next my attention to the corresponding surface of the heart, I discovered an ulceration nearly circular, and about four lines in diameter, upon the external surface of the left ventricle, near the line which separates the two sides of the heart. This ulcer had a small opening, communicating with the left ventricle, at a small distance from the partition between it and the right ventricle, and nearly half an inch below the left auricle." Nothing unusual was observed in relation to the two auricles and right ventricle.

Desirous of obtaining information as to the symptoms under which this patient had laboured during life, M. D. applied to the student having charge of the ward of the hospital in which the individual had died. He learned that about two months before his death, he had presented himself at the Clinic, in consequence of a pain of the left side of the chest. This pain was not accompanied with any symptoms which should lead to a suspicion that he laboured at the time under any serious disease. The patient complained solely of this pain during the two weeks he remained in the hospital; he eat with a good appetite; all the functions of his system were regularly performed, and he left the hospital at the end of fifteen days, in the same condition in which he had entered it. Some time afterwards he came back. He arrived at the hospital at 5 o'clock in the afternoon, and two hours subsequently he was dead, without having been examined by the physician. "During the time he was first in the hospital, the pupil whose duty it was to examine into his case, learned from him, that many years previously, a needle which he had applied against his breast had broken, and that one of the fragments penetrated the skin, under which it remained; that in consequence of this accident a phlegmonous tumour made its appearance, which, being opened by the knife, gave discharge to a great quantity of pus, with which the patient asserted the portion of the needle had escaped." M. DELMAS regrets that in consequence of the dissection having proceeded very far, before he was aware of any remarkable lesion, he was unable to make the necessary researches in order to ascertain what relation existed between the cicatrix resulting from the phlegmon upon the breast, and the lesion of the heart, as also the state of fulness or vacuity of the arteries and veins.

16. *Remarkable Case of General Emphysema.*—The following case is related in RUST's Magazine, Vol. XXVIII. No. 1, by Dr JAHN, of Meiningen. A prisoner in the house of correction of the latter place, who, in consequence of long continued habits of intemperance, and the low diet of the prison, was affected with humid asthma, received from one of the officers a beating, the only effect experienced from which, on the ensuing day, was a slight ecchymosis on the left lumbar region. The second day there occurred an emphysematous swelling of the face, throat and chest. The patient, however, complained of no pain, and the respiration was as free as ordinary. During the following night, the swelling increased and extended itself rapidly over the entire head, the trunk and limbs; at the same time the patient experienced a great constriction at the chest, as though the lungs had been gradually compressed and pushed upwards, and a severe cough. Towards morning, the sense of suffocation had become so great that he earnestly besought his keeper to give him a knife that he might make an incision in the skin to give vent to the air. The Doctor found him in the morning in the most frightful condition. He was seated on the bed, propped up by his attendants: the head, trunk and extremities were at least double their natural size. The upper eyelids formed each a kind of vesicle of the size of an apple. The eyeballs were themselves emphysematous, and projected from the orbits. The parts within the mouth were likewise distended with air. The scrotum was enlarged to the size of a hat, and the penis presented an enormous bulk. A peculiar oily sweat covered the body. When the surface of the latter was *struck*, it emitted a sound as from a damp drum: and when *the hand was passed over it*, a crackling sound was heard. The skin, when pressed in, returned to its former height the moment the pressure was removed. The dyspnœa was extreme; the respiration was frequent, hurried, and hissing; and could be performed only with the utmost efforts on the part of the patient, who was forced to elongate the neck, and hold convulsively by the surrounding objects. The mouth was covered with foam; there was a short interrupted cough, and a total suspension of the powers of speech; but entire consciousness.

A trochar was plunged into the scrotum, and immediately a quantity of air, perfectly inodorous, rushed out with a loud hissing noise. The patient was greatly relieved: the swelling diminished rapidly over the whole body; the respiration became fuller and more easy; he was again able to speak, and began to joke upon his previous appearance. He stated, that as the swelling increased he felt as though his lungs were gradually compressed; he then experienced a violent constriction of the glottis, and a sensation of suffocation, as if the air contained in the chest could not escape by the wind-pipe. The opening made in the scrotum not being sufficient to allow of the escape of all the air diffused throughout the cellular tissue, incisions were made on different parts of the extremities, the back and breast. Had it not been for these it is very evident that the air would again have accumulated as before. As soon as the condition of the patient permitted, a minute examination was made to ascertain whether any of the ribs had been broken or depressed, or whether there existed any rupture of the muscles; but not the least injury of the chest could be discovered. The patient complained of no pain or soreness internally; he experienced only a slight constriction of the chest, which was not, however, greater than he had previously laboured under. He was put under a strict antiphlogistic treatment. For ten days, particularly during the night, the elastic fluid still continued to accumulate under the skin, but only to a trifling extent, and it was readily dispersed by frictions and pressure. Subsequently a slight œdema of the feet appeared, but which was soon removed by appropriate remedies. By the 19th day he was entirely well, with the exception of a debility produced by his long continued habits of intemperance. In the observations appended, the relater remarks, that the only way to account for the production of the emphysema in this case, is by supposing that "during the beating the patient received, a portion of the lungs and of their enveloping pleura, had been ruptured, in consequence of which the air from the lungs escaped into the cavity of the thorax, and from thence found its way into the cellular membrane surrounding the neck, and subsequently, over the whole body."

17. *Inflammation of the Sinuses of the Brain.*—During the present year M. TONNELE read before the Royal Academy of Medicine a memoir upon the diseases of the sinuses of the dura mater. We shall notice on the present occasion only so much of the memoir as relates to inflammation of these vessels. The fact that the sinuses of the brain were, like the veins, liable to inflammation, and to the formation of false membranes in their interior, was established in a paper published by M. RIBES in 1825. Of these inflammations M. TONNELE reports several cases, which he arranges according as the pseudo-membranous concretions occur with or without suppuration. Of the first we notice particularly the three following. 1. An infant two years old, after the disappearance of an eruption of the scalp, was affected with several symptoms of cerebral disease; as peevishness, somnolency, contraction of the limbs, dilatation and insensibility of the pupils, &c. After death, pseudo-membranous concretions, with suppuration, were discovered to exist in the superior longitudinal sinus and in the veins of the pia mater; there was also an ecchymosis in the tissue of the latter membrane and a superficial softening of the brain. According to M. T. this case presents an instance of inflammation of the internal membrane of the sinus, producing false membranes, and finally ramollissement of the substance of the brain. 2. A female child two years old, affected with scrofulous ophthalmia, was suddenly seized with convulsive movements of the muscles, and other indications of cerebral disease: these were shortly replaced by symptoms of adynamia, which caused the death of the patient in a few days. Upon the right side of the occiput there was discovered an ulcer, the existence of which had been overlooked. *Sectio cadaveris.* The right lateral sinus was twice the ordinary size, and filled with thick, fetid pus, containing small solid concretions and numerous clots of blood; the internal surface of the sinus was covered with a thick false membrane; the dura mater, where it forms the sinus, as well as the corresponding parts of the cerebellum, were covered with a layer of pus, and the nervous substance beneath this pus was softened. M. T. conceives that in this case the ulcer at the occiput was the cause of the inflammation of the sinus, in consequence of the pus having been taken up by the absorbents and carried into the former. With respect to the symptoms under which the patient laboured during life; he refers the convulsive movements and other symptoms of cerebral disturbance to congestion and inflammation of the brain and of its meninges; while he ascribes the symptoms of adynamia to a poisoning of the blood by the absorbed pus. 3. An infant two years old, for a long time in a weakly condition, died suddenly as if from suffocation. On examining the body, it was found that a quantity of blood had escaped under the pericranium through the sagittal suture; the superior longitudinal sinus, to the extent of two-thirds anteriorly, was distended by a large coagulum evidently of recent formation; throughout its posterior third it was lined with false membranes mixed with a cream-like fluid. The veins which terminated in the sinus were very much distended. In the centre of the right hemisphere of the brain was discovered a large cavity filled with blood, to which the sudden death of the child is to be attributed. In those cases in which there exist in the sinuses false membranes without any collection of pus, the effects are the same, viz. impediment to the circulation of the blood; effusion of the latter on the surface of the brain; infiltrations of blood in the arachnoid and in the cellular tissue beneath this membrane; during life symptoms of nervous and cerebral disease; in some cases sudden death.

The causes by which inflammation of the sinuses of the brain is produced, M. T. observes, it is difficult to determine. In the majority of the cases which he has observed it occurred in patients labouring under tinea capitis, or in whom there was also a development of false membranes in several other parts of the body.

18. *Induration of the Valve of the Brain.*—In Vol. II. No. 4, of the Zeitschrift f. d. Organ. Phys. Professor HEUSINGER relates, that in examining the body of a female who had died of phthisis pulmonalis, and had never complained of pain of the head or eye, he found the valve of Vieussens in a state of complete cartilaginous induration, and covered with a layer of very firm yellow adipose matter, nearly a line in thickness. This matter, which was deposited in the pia mater, adhered firmly to the valve, and was confined to the latter, following it in its passage beneath the central lobe and extending a short distance into the superior vermicular lobe. The surrounding parts were in their normal condition.

19. *Intermittent Tetanus.*—A woman, æt. 67, was affected with paronychia on the thumb of the right hand. The first phalanx separated, and the wound cicatrized. Fifteen days subsequently, a pricking pain was felt at the lower part of the cicatrix, and extended by degrees to the arm, following the course of the median nerve. This pain continued from five to fifteen minutes, and returned every day; some months afterwards it was accompanied with trismus and opisthotonos. The thumb was amputated, and the pain and the tetanic symptoms no longer returned. On examining the part amputated it was discovered that the cicatrix had become cartilaginous, and that a nervous branch which extended into it, was of a rose colour to the extent of a line and a half of its course. The foregoing case is related by Dr. SCHUETTE in the Heidelberg Clinical Annals, Vol. III. No. 3.

20. *Acute Watery Effusion in the Brain occurring without Inflammation.*—In 1825 Dr WILLIAM SHERMAN, of London, published a small volume for the purpose of controverting "the doctrine of water in the brain being a specific disease, and to oppose the prevalent opinion of the proximate cause of the watery effusion being inflammation." In the July number (1829) of the Edinburgh Medical and Surgical Journal, this gentleman observes that since the appearance of his essay, "similar opinions seem to have been entertained, more especially as to the latter part of the above quotation, by men of extensive attainments and considerable reputation, particularly by Dr MONRO, in his book on the Morbid Anatomy of the Brain." After some other observations the following case is introduced, in which Dr S. conceives that the effusion "was not the consequence of any preceding inflammation in the membranes of the brain, but arose as an accidental occurrence in a weakly and scrofulous constitution; predisposed, therefore, to a great degree of irritability of those membranes."

A child three years old, of a weakly constitution, and scrofulous appearance, was brought, November 6th, to the West London Infirmary, with symptoms of hydrocephalus. His head was constantly in a rolling motion, accompanied with convulsive twitchings in his limbs. His countenance had an idiotic expression, and he was incapable of recognizing his mother or surrounding objects. The pupils were greatly dilated; the child appeared unable to see, a near approach of the hand of a bystander to the eyes, not producing any motion of the eyelids. The pupils, however, slightly contracted on the approach of the light of a candle, but not otherwise. Bowels somewhat constipated; but there was neither hardness nor tension of the belly,—pulse nearly natural. The child had not spoken for many days. The mother stated, that two weeks previously he was attacked with febrile symptoms, accompanied by purging. These continued for a week, when she discovered in the morning, that the child was unconscious of her presence, and incapable of seeing, and exhibited all the other symptoms now present. A blister was applied to the right side of the abdomen, and a grain of calomel directed every two hours. November 9. Blister had drawn and discharged freely; twelve grains of calomel had been taken, but at rather longer intervals than prescribed. Bowels freely opened,—urine copious. The child was now conscious of the mother's presence, and of surrounding objects; can see perfectly. The rolling motion of the head, and convulsive twitches have ceased. Ten drops of sulphuric acid and of vinegar of squills were directed every four hours, and four grains of rhubarb and magnesia, with one of calomel, every night. By the 20th of the month all symptoms removed. The medicines were continued for a short time longer, with the addition at night of three grains of ferrum tartarisatum.

In relation to this case, Dr. S. remarks, that he "can see no evidence of inflammation of the brain or of its membranes having taken place during any time of the progress of the disease; no prominent symptoms of the head being particularly affected, manifested themselves in the space of the first week; and the sudden accession of those denoting effusion of fluid would seem to be the *effect* of that state of the system, whatever it was, to which the febrile symptoms were owing. If it be maintained," he adds, "that these febrile symptoms themselves were nothing more than symptoms of inflammation of the brain, viz. that they constituted hydrocephalus internus in its first stage, it will be necessary to explain why this inflammatory disease should have terminated in perfect recovery, without the counteracting means, whilst almost all severe cases of a similar kind, where large bleedings and antiphlogistic measures have been employed, terminate fatally."

We present to our readers the outlines of the foregoing case, as we consider it to be one highly interesting in many points of view. We must say, however, that we cannot receive it as a proof of the non-inflammatory character of hydrocephalus. There is in fact no positive evidence that watery effusion had taken place in the brain of this patient; on the contrary, there is every reason to believe that it had not. Dropsy of the brain we know to be a disease very generally fatal, whereas in the case before us all the symptoms attributed to the existence of effusion within the brain disappeared in a few days, under a treatment certainly not the most active. We have seen cases in which phenomena, very similar to those which occurred in Dr S.'s patient, though probably not to the same extent, were very evidently connected with gastric irritation, ceasing almost suddenly, upon the expulsion of undigestible substances or worms from the stomach. In these instances it is very certain that water did not exist in the brain.

21. *Acute Purulent Ophthalmia following the Suppression of an Habitual Chronic Leucorrhœa.*—It is very generally admitted that gonorrhœa too suddenly suppressed is occasionally followed by a purulent ophthalmia, termed gonorrhœal or blennorrhagic, to indicate its supposed origin. In the Bibliotheque Médicale for March 1829, M. Gibert relates an instance in which, in the same manner, purulent ophthalmia was the consequence of the suppression of leucorrhœa. A young woman, 27 years old, mother of a delicate infant, had for many years laboured under leucorrhœa; desirous of a cure, she applied to M. G. who directed her to use injections of cold water and vinegar of roses, in the proportion of three quarts of the first to one of the latter. By this means he had frequently succeeded in removing similar discharges from the vagina; and without any bad effects having resulted; but in the present case, the discharge had scarcely been suspended, when the eyes of the patient became affected, "in fact the disease had merely changed its seat." The burning and sensibility of the eyes were insupportable. Leeches were directed to the neck, blisters to the arms, sinapisms to the legs, together with laxatives, emollient lotions, &c. This treatment produced a sensible diminution of the symptoms; the discharge from the eye lids, however, still continued. M. Gibert was then induced to employ, with the view of arresting "the leucorrhœa of the eyes," the same topical application by which the vaginal discharge had been suspended, proportioning the ingredients to the sensibility of the organ. The result was the most happy—the discharge from the eyes being almost instantly arrested, and the patient was enabled to support the light by the assistance of coloured spectacles. Shortly after there appeared a slight discharge from the vagina. M. G. adds, "that in this case it is impossible to suppose that the affection of the eyes was gonorrhœal ophthalmia."

IV. THERAPEUTICS, MATERIA MEDICA AND THE PRACTICE OF MEDICINE.

22. *Tannin in Uterine Hemorrhage.*—Dr Jules Cavalier furnishes the histories of two cases of what are called passive menorrhagia, cured by tannin. In the first patient, aged 33 years, there was an alternation of hemorrhage from the uterus and the intestines. She had had one child some years before. The uterus on examination exhibited no organic change: its neck was elongated and flabby, and the mouth so open as to allow of the introduction of the index finger. The tannin, in doses of two grains every two hours, produced, on the day following its first administration, a stoppage of the hemorrhage per anum; and on the third day a cessation of the menorrhagia. Leucorrhœa, which supervened, was in a great measure checked at the expiration of eight days use of the tannin. The patient had taken altogether ninety grains of this medicine. She soon recovered her health and plumpness, and has ever since then (the summer of 1827) had her menstrual discharges regularly, and been free from all complaints.

Bleeding had not been resorted to in this case; but all the other customary means had been used—such as low diet, mucilaginous drinks, revulsives, refrigerants to the skin, and injections of the same nature. Styptics and astringents were next administered, but with equal want of success.

After the tannin was had recourse to, no other medicine was given.

The second case was of a female aged seventeen years. She had suffered from menorrhagia from April to June 1828. From the 5th of this last mentioned month to the 18th, all the means directed by Dr Cavalier were fruitless. He then had recourse to the tannin in the same dose as above; and with such success, that in a period of four days the discharge was completely stopped by a drachm of the medicine.

This practice was suggested to Dr Cavalier by the accounts of its success in the hands of Dr Porta. Our readers have been already apprized of the views of this latter gentleman, in the fifth volume of this Journal, page 210. He recommended three grain pills of the tannin, to be repeated every three hours.

23. *Combination of the Lactuca Virosa and Digitalis Purpurea in Hydrothorax.*—This curative means was first pointed out by Dr Toel of Aurich. Since then M. Brosius has administered it in twelve cases of hydrothorax. Though he succeeded in curing radically but two, the principal unpleasant symptoms were allayed in eight other cases. In two alone the mixture had no effect. And here we recognise a peculiarity already noted, that if it fail to display its powers during the first few days, we have nothing to hope for from its subsequent administration.

One of the successful cases was of a female aged 76 years. The patient took four grains of the extract of the lettuce with one grain of the powdered digitalis at a dose, and repeated it every two hours. After the fourth dose the symptoms were of less intensity; and after the sixth all had disappeared. Three days having elapsed, during which the patient took eighteen doses in all—a strong infusion of digitalis was prescribed. On the eighth day the cure was completed by the administration of some bitters.

Among the cases in which the mixture of the extract of the lettuce and the powder of the digitalis acted as a palliative, there was one in which, by means of it, the patient recovered from five relapses in a period of two years—each time there was an œdema of the face, hands and feet. The sixth relapse was fatal.

24. *Mixture of Quinia and Digitalis Purpurea in Pulmonary Consumption.*—We derive our knowledge of this and the combination mentioned in the preceding article, from the *Bulletin des Sciences Médicales*. Dr Gunther, of Cologne, recommended it for the first time in 1825. Since then he has made [illegible] trials of its efficacy in phthisis pulmonalis. In some the violence of the [illegible] greatly ameliorated; and in one case of a scrofulous girl labouring

under the second degree of tuberculous phthisis, the patient was completely restored to health.

Each dose of the mixture consists of two to three grains of the sulphate of quinia, a third or half of a grain of digitalis, and eight grains of fennel, to be repeated four times a day.

25. *Camphor Vaporised, a Remedy for Chronic Gout and Rheumatism.*—The *Journal General*, for April last, contains a memoir on this subject, by Dr A. L. Delormel, read before the Medical Society of Paris.

The apparatus for giving the camphor vapour bath is very simple: it consists of an osier basket covered with impenetrable canvas, in which the patient may sit at his ease, with his head outside. This basket is 4 feet 6 inches in length, by 2 feet 6 inches broad and 3 feet high. Its form is oval. It separates into two equal parts, one of which has a movable lid, with an aperture in it to allow room for the head to pass through. Another aperture in front of the basket serves for the introduction of a furnace filled with live coals, which heat the interior so as to raise it to the temperature of 144 to 167 degrees of Fahrenheit (50 to 60 degrees of Reamur). On this furnace is placed, towards the conclusion of the bath, the vessel containing the camphor, which is soon volatilized. If it be wished to augment the heat, the camphor may be allowed, without fear, to enter into combustion.

The bath is taken in the following manner. Every thing being ready, and the opening through which the head is to pass made tight, and the fire introduced, we wait until the internal air is raised to a heat of 77 degrees F. The patient, enveloped only in a flannel gown or a blanket, takes his seat, throws off his covering, and remains exposed to a steadily increasing heat during 20 minutes. The camphor is then introduced, two or three drachms sufficing for a bath. The patient remains exposed to the vaporization for 5 or 6 minutes, and afterwards resumes his gown, comes out of the bath and retires to his bed, in which the perspiration flows abundantly for two hours. The clothes of the patient are now to be entirely renewed.

The bathing may be repeated several times in the day, according to the greater or less degree of revulsion which it is desired to produce by it.

Dr Delormel, like a man of sense, does not laud his remedy, as one adapted to all cases, and every stage of the disease. He tells us plainly that, holding in mind the powerfully stimulating effect of the vapour bath, and the imminent risk of its causing sanguineous congestions, he always directs, as a preparatory measure, one or two bleedings, according to the strength of the patient and the number of baths which he is desirous should be taken in the course of the day. For fear, also, that the digestive passages should suffer from over excitation, he takes care to have applied to the epigastrium a suitable number of leeches; and to make the patient pursue a very rigorous dietetic course at the beginning of his treatment.

The patient is directed to use habitually a decoction of dulcamara; is put progressively on a mild feculent and herbaceous regimen; and when he has taken a certain number of baths, he is put on the use of pills, of which aconitum and opium are the basis. The number of these pills must be gradually increased every day, until the summum dose is allowed: from this there is to be a regular diminution in the same ratio.

This course is often sufficient of itself to cure chronic rheumatism and gout. Sometimes we require auxiliaries—such as the application of cups—flying or permanent blisters and moxibustion.

The first case in which Dr Delormel adopted the above practice, dates as far back as 1807. The author enumerates other instances of its success in both rheumatism and gout.

At the sitting of the Medical Society, January 2, 1829, some of the members, Messrs Dolens and Gendrin, express their belief, that the practice is not original with Dr Delormel. The first refers to Am. Chéze, who advocated baths of vaporized camphor in rheumatism, in an inaugural thesis of the year 1808. Dr

Gendrin said that he had employed the remedy several times himself, but without success.

26. *Tartar Emetic in Large Doses.*—We take the following summary in Dr Bayle's work, *Bibliotheque de Thérapeutique*, from the *Journal General* for June last.

1. Tartar emetic administered internally, in disease, in doses of from 8 grains to a scruple or drachm, and even several drachms during the day, is not a poison; it is not even followed by bad effects, except in a small number of cases, in which manifest counter-indications were present.

2. Whether borne or not by the sick, it does not produce in them inflammation of the gastric intestinal mucous surface. When evidences of this phlegmasia exist, such as redness of the tongue, pain of the epigastrium, diarrhœa, we often find them disappear under its use (Laennec, Delormel, Meriadec-Laennec, Lagarde, Fontanelles); when the patient dies we commonly find the digestive tube exempt from alteration, and the internal membrane pale, or slightly injected (Meriadec-Laennec, Strambio, &c.).

3. Tartar emetic in large doses is a powerful remedy in *peripneumony*. It is very useful either as an auxiliary to bleeding, or as the sole curative means, when sanguineous emissions have not arrested the progress of the disease, or when we deem it improper to have recourse to them.

M. Peschier cured all his patients with the exception of one, without bleeding, and entirely with the tartar emetic. M. Wolf has cured *ten*, all that he treated; M. Palais, *one;* M. Prato, *two;* M. Rasori, *fifty-two* out of *sixty-one*, in his *civil clinic*, and *fifteen*, being the whole number, in his military clinic.

As to the pneumonic cases which were subjected to both blood-letting and the use of the tartar emetic, we learn that Rasori cured in his civil clinic *four hundred and forty-four* out of *six hundred and two*, which makes a mortality of twenty-two out of a hundred. In his military clinic he cured a *hundred and forty-nine* out of a *hundred and seventy-five*—deaths *twenty-six*—mortality fourteen per cent. M. Laennec out of *fifty-seven* cases cured *fifty-five*—deaths *two*, which is equivalent to rather less than one in twenty-eight. M. A. Laennec cured *thirty-seven* patients out of *forty*—deaths three, or one in thirteen.

The greater number of these persons took the tartar emetic without its producing vomiting, or at least only shortly after its first administration. In others it was not retained on the stomach, although this circumstance was not always an obstacle to the cure.

4. *Articular Rheumatism* is, next to pneumonia, the inflammatory affection in which the antimony in full doses has been the most efficacious. Among a great number of cases treated by M. Laennec, this professor found that the mean period of the disease under this treatment was seven or eight days. Of thirteen cases collected from his clinic, the tartrate of antimony and potass was evidently useful in *eight;* it was without effect in *two;* hurtful in *one;* and of doubtful efficacy in *two* (Meriadec-Laennec). Out of five cases of acute articular rheumatism, M. Honore cured *four* (Lagarde). Of fifteen cases cited by M. Delormel, *thirteen* were followed by a cure. The *Observer* of *Naples* contains *six* other cases of cure, *two* of which have been published by Dr Spadafora.

5. Tartar emetic in large doses has been tried in many other affections, but on too small a number of patients to inspire us with an entire confidence in the success of the practice.

M. Laennec has cured, by this means, an *arachnitis*, three cases of *acute hydrocephalus*, a *phlebitis*, three cases of *chorea*, and two *anginas*. M. A. Laennec has succeeded in two cases of *idiopathic* tetanus. M. Recamier in four cases of acute pulmonary catarrh. M. Fontanelle in one of *jaundice*.

6. In other diseases in which this mode of treatment has been tried, there are many cases of its failure, and some of its having been injurious. M. Laennec has remarked that the tartrate of antimony and potass produced a prompt reduc-

tion of the inflammatory organs in pleurisy, but that it did not hasten the absorption of the effusion which is the consequence. Out of eleven cases of apoplexy, six have been cured; but as the professor made use at the same time of blood-letting, it is uncertain whether the tartar emetic contributed to the cure (MERIADEC-LAENNEC). In a case of rheumatism, and another of gout, it was evidently hurtful (MERIADEC-LAENNEC). Its employment in *insanity*, accompanied with *semi-paralysis*, was not in general attended with any success.

27. *The use of Tartar Emetic in Large Doses recommended first in England.*—The *Medico-Chirurgical* claims for Dr MARRYAT of Bristol the credit of anticipating the Italians in the free use of tartar emetic. Dr MARRYAT published the last edition of his Therapeutics about 1790, and died in the year 1793. The following are his words in reference to tartarized antimony in fever, which will be found to prove that the plan adopted by RASORI, was, nearly as possible, the same as Dr MARRYAT had practised full ten years before the time that it was first tried in Italy.

"Any fever may be soon extinguished by the use of the following powders: Take of tartarized antimony five grains; white sugar (or nitre) a drachm; let them be well rubbed in a glass mortar, and be divided into six powders; one to be taken every three hours, notwithstanding the nausea the first may possibly occasion. If they bring on a diarrhœa, they should still be continued, and it will soon cease. If these are taken (which is most commonly the case), without any manifest inconvenience, let there be seven grains in the next six powders; and in the next ten. Here I beg leave to retract what I said in some former editions of this work, viz. that till sickness and vomiting was excited, this noble medicine was not to be depended on. For I have since seen many instances wherein a paper has been given every three hours (of which there have been ten grains in six powders), without the least sensible operation, either by sickness or stool, sweat or urine, and though the patients had been unremittingly delirious for more than a week, with subsultus tendinum, and all the appearances of hastening death, they have perfectly recovered without any medicinal aid, a clyster every other day excepted. I have lately seen a great many cases similar to those above, and the tartarized antimony has invariably produced the same effect."

It is but right to make us acquainted with the date of this practice of Dr MARRYAT; and yet, we may ask whether his countrymen are not censurable for their overlooking or remaining ignorant of it so long. To Italian physicians, after all, are both English and American ones indebted for their knowledge of the impunity, not to say advantage, with which large doses of tartarized antimony are prescribed.

28. *Partial Palsy cured by Strychnia, locally applied.*—The subject of this case was an habitual drunkard, aged 36 years. He had lost the power of the left fore arm and hand ten days previously. The sensation of the parts was perfect, but the mobility much impaired. There was no head ach. Over a vesicated surface on the back of the fore arm, one eighth of a grain of strychnia was sprinkled. The dose of the medicine was increased by doubling the quantity every day until it amounted to one grain, after which a fourth of a grain was to be added. The improvement was manifest from the second week, and the patient, without having experienced any uneasy symptom, was dismissed cured at the end of five weeks from the commencement of the treatment.

In another patient, affected with paralysis of the flexor muscles, and diminished sensation of the right leg, a cure was effected in the course of six weeks.

29. *Method of preventing Scar and Deformity from Small Pox. By* A. STEWART, *Surgeon.*—The following is part of an extract from a printed paper sent to the editor of the Medico-Chirurgical. "Whilst the pustule is yet lymphic, (I would say papular) and before much or any ulceration and suppuration have taken place, to pass a needle through it, as near the base as possible, and

having a small bit of dry lint in the other hand to press the apex gently on the base, and there retain it about a minute or two and then destroy the lint:—this is to be done to all separately and individually, as they appear. The effect on each is various; in some, an almost immediate cohesion will take place between the apex and the base, and a small superficial scab will be the consequence; the ulcerative action merges into adhesion, the red basis gradually subsides, and when in a few days this superficial scab falls off, the part is healed without filling. In others the little pustule will again fill: puncture and press it down; the apex and base may then unite by the first intention, or it may again require a third time the operation, but seldom have I in any case known it to require more. The constitutional treatment must of course be adapted to the circumstances of the case, as if this mechanical and local one had not been made use of. It may be objected that it is laborious going over each pustule, when a full crop has covered the surface, but we must rejoin, that we cannot have any thing without trouble; maternal solicitude will not find it irksome. At first the motion requisite, will greatly disturb the child and distress the parent, and perhaps render her unwilling to pursue the task; but the evident relief so shortly produced will raise her hopes, and render the process pleasant. When confluence is apprehended, and two or more pustules are so close that their inflamed bases are united, puncture each separately as far as possible from each other at the same time, and press between them with lint; the contained lint is absorbed from each as it is pressed out; the adhesion of the apex and base is separately produced, and confluence is prevented. The rationale of the above practice must be evident to every person who will reflect that febrile actions producing inflammatory affections of the skin will be necessarily increased in a compound ratio of the specific tendency of that inflammation, and the state of the system in which the disease has been produced; that if, as in small pox, the tendency is to run into suppurative and ulcerative inflammation, the general irritation consequent to such action must necessarily re-act considerably on the constitutional derangement, and augment the fever. The above method then, by removing a cause, will also remove an effect; the primary being lessened, and the secondary fever either not occurring, or with much mildness. In fact, the first intention is substituted for the second, and the disease strangled in its birth."

30. *Efficacy of Sponging with Cold Water in Measles.*—In an epidemical visitation of measles in the neighbourhood of Berlin, during the autumn of 1825, Dr THAER, a practitioner of that city, determined on trying cold lotions of vinegar and water to the whole surface of the body. There were 121 sick of the disease while the epidemic lasted. Of 52 to whom lotions had not been applied, 11 died; whereas there was but one death out of 68 on whom the practice was adopted, and even in this fatal case, in which there were pulmonary tubercles, the remedy had been used contrary to the advice of the physician.

The epidemic exhibited an inflammatory character, which was considerably increased by the deplorable custom still common among the lower classes of keeping the body greatly heated under the idea of the eruption of the measles, as of all acute eruptive diseases, being thereby accelerated. A great number of those sick with measles were sufferers also from peripneumony, and some from encephalitis. The treatment before the use of the lotions consisted in keeping the air cool around the patient and employing refrigerants and leeches.

Notwithstanding this methodical course, Dr THAER lost four of his patients—three of them had, it is true, been placed under his care several days after the invasion of the disease, and they had been kept very warm. Recourse was had to leeches in one only of the sixty-eight treated by cold ablution. They had been applied to one other before the latter treatment was commenced.

The following summary of Dr THAER's practice and views is taken from the the Revue Medicale for April.

"1. Lotions were prescribed whenever the temperature of the body of the patient was above 98° Fahrenheit, (29.5° R.) with the understanding that there were restlessness and shortness of breathing.

"2. The water for the lotion was used colder as the body of the patient was hotter. I was regulated in this respect by the table of Frœlich, which I always carry about with me, together with a small thermometer, the bulb of which I placed under the axilla of the patients.

"3. I never made use of sponging when the little patient was in a tranquil state or perspiring.

"*General remarks.* 1. The children who had been thus bathed were for the most part perfectly cured in the space of eight days.

"2. The desquamation seemed to be minor in degree and more rapid in its progress after the lotions.

"3. The convalescents exposed (contrary to my orders) to the open air, which was becoming cold, did not experience on that account any inconvenience, although they had some remains of cough.

"4. When the irritation of the lungs had been of some duration, copious expectoration supervened after the use of the lotions: when the pulmonary disease was in its incipient state, it was cured without expectoration so soon as the functions of the skin had become regular.

"5. In three patients I saw the eruption come out immediately after the lotions, though prior to this there had not been the slightest evidence of it; and whenever the eruption appeared, the other symptoms were considerably moderated in violence."

The author believes that cold ablutions merit a preference over very cold air in the acute exanthemata:

1. Because in the use of lotions, we are absolutely masters of the degree of cold which it is desired to employ, so that it can be modified at any moment or season, and adapted to each individual when there are several in the same room.

2. Because water is a better conductor of caloric than air.

3. Because it is easier for a nurse or attendant to apply lotions of a reduced temperature every hour or two, than to remain constantly in a very cold room.

The better plan would doubtless be to combine the two methods, taking care always that the temperature of the room should never be below 62° Fahrenheit; and that the patient should have his habitual covering. If in despite of these precautions there should supervene much heat, with a train of other symptoms, we must have recourse to ablution, as above.

The following table is that of Dr Frœlich, which determines at what degree of temperature the water, either for ablution or cold bathing, ought to be used, agreeably to successful experience in a great number of acute diseases:—

Heat of the body by Fahr. Therm.	Temp. of the water by Fahr. Therm.	Duration in minutes of the Ablutions.	Baths.
98	90½	4	...
99½	85	4	...
100	75	4	1½ to 1
101	65 to 70	6	1 to 2
102	60 to 70	4 to 6	2 to 3
103	60 to 70	8	6 to 8
104	60	...	3 to 4
105	55	...	2 to 3
106	40	...	1 to 3
107	40	...	1 to 3
108	35	...	3 to 4
108½	35	...	3 to 4
109	35	...	3 to 4
110	35	...	3 to 4
111	35	...	3 to 4*

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* We have reduced the degrees of Reaumur in the French Journal into those of Fahrenheit.

31. *Nitrate of Silver taken internally.*—In RUST's Journal, there is an account by Dr WEDEMYER of Hanover, of an epileptic patient, who took the nitrate of silver internally, for eighteen months. The skin became discoloured, as constantly occurs under such circumstances, and the epilepsy disappeared. But this disease was replaced by an organic affection of the liver, which ended in ascites and finally death. On examination, the internal organs were all found more or less of a blue colour, like that of the skin; the plexus choroides and the pancreas, in which the colour was strongest, were subjected to a chemical examination by M. BRANDS. He succeeded in obtaining from them metallic silver.

We hope that the perusal of this case will make some of our medical brethren more wary in recommending lunar caustic for irritability of the stomach. To gruel in such cases we have no objection; but we should entertain serious fear from the smoothing down of the mucous surface of the stomach by the internal use of the caustic.

32. *Intermittent Fever cured by Levigated Charcoal.*—The *Jounal des Progres* gives three cases of intermittent fever, which Dr PŒRQUIN cured by levigated charcoal, in doses of two drachms, mixed with water or some pleasant vehicle. A single dose seems to have been successful in each of the three cases.

33. *The use of Cathartic Medicines in the Diseases of Women.*—Dr COOK, of the Transylvania College, details in an essay under the above head, (Transylvania Journal of Medicine, &c.) some cases of menorrhagia, in which large doses of purgative pills of scammony, rhubarb, aloes and calomel, or of scammony and rhubarb, or of jalap, aloes, rhubarb and calomel, taken so as to procure free evacuations from the bowels, cured the disease. He has succeeded by the same means in preventing and arresting hemorrhage, towards the conclusion of pregnancy, and saving the life of the child. A case of leucorrhœa, with hæmorrholds, flatulence, vertigo and erysipelatous flushings, was successfully treated by purging as above. "It has been repeatedly mentioned," says Dr C. who fully coincides in the opinion, "that those who took medicines of this description had easy labours."

34. *Subcarbonate of Iron in Tetanus.*—In the fifteenth volume, first part, of the Medico-Chirurgical Transactions, is a short paper by Dr ELLIOTSON, in which are detailed the histories of two cases of tetanus cured by the rust of iron. In the first, half an ounce of the medicine was prescribed with treacle and mixed with beef tea, every two hours. The symptoms declined in severity after the first two days, and ceased altogether in about twelve days. For the second, two drachms of the subcarbonate were prescribed every two hours, and the dose increased after two days to half an ounce. After eleven days of this treatment the violence of the disease having subsided, the abdomen being soft, and the trunk very little arched, the medicine was now given only every four hours. "From this time the patient rapidly improved, had but one exacerbation in the twenty-four hours, and that at night, and gradually slighter." He was so well in a week afterwards that the medicine was discontinued. Enemata of castor oil, or of gruel, salt and oil were given at intervals. Dr ELLIOTSON believes that in most cases of disease, doses of one to two drachms, two or three times a day, answer every purpose.

35. *Effects of the Warm Bath.*—We derive the following account of some experiments on the warm bath, contained in an inaugural dissertation, by HENRY WILLIAM LOCKETTE, of Virginia, 1801, from the Maryland Medical Recorder, the first number of which has recently made its appearance, under the direction of Dr JAMESON.

We would press an attentive perusal of this article on all of our medical brethren who continue to dream of the enfeebling nature of the warm bath, and the tonic power of the cold; forgetting or ignorant that the first, when above 90° Farenheit, is a powerful stimulant, and that the latter, when below 60°, is a decided sedative. The cold bath strengthens; so do venesection and absence, when the body is plethoric and over excited.

"Dr Lockette, in good health, immediately after breakfast, went into a bath at 98° of Fahrenheit, in a room at the temperature of 67°, pulse beating 80 strokes in a minute. In one minute the pulse rose six beats; remaining in the bath 19 minutes, the pulse fell to 70 beats. The water during the experiment did not vary more than 'two degrees.' After leaving the water and dressing, the pulse beat 77 strokes per minute, giving thus an increase of 10 from the stimulus of the warm water. Notwithstanding the reasonableness of the circumstance of increased vascular action from the warm bath, we almost daily see it used in fevers by nurses and patients, and even by the profession, without regard to this important fact.

"In the second experiment, the doctor, being in health, his pulse beating 77, temperature of his room 64°, put his feet into water at 110° Fahrenheit. The experimenter had 'a small pain in his head.' This serves to show us by direct experiment, a mode of inquiry too often neglected, that the partial warm bath is capable of doing much harm or good as it shall be directed.

"In a third experiment a person went into a water bath at the temperature of 107°, room at 68°, pulse 68. In one minute the pulse rose to 105, an increase of 87: in fifteen minutes it had risen 10 more. The bath could scarcely be borne; the skin became red; the person became drowsy. The bath was however borne till, perspiration coming to his relief, he found his situation bearable. Little judgment or common sense is required to enable us to perceive how injurious must be the influence of a bath a little too hot in cases of fever, and yet mothers and nurses in general consider a warm bath a very simple thing under all circumstances, and often employ it to the great danger and injury of children labouring under cerebral excitement.

"Dr. Lockette went into a bath, intending to increase it as far as could be borne. After passing through several degrees of temperature, in all which the circumstances and results corresponded with the foregoing experiments, he raised the temperature of the water to 111°, 'when his pulse rose in three minutes to 163.' The heat was now insupportable, it produced 'confusion of thought, partial delirium, tinnitus aurium, an inability to speak, dimness of sight, an intolerable pain in the head, with a most painful desire to make water: my sensations were precisely such as they are in a violent state of fever.' 'In about a quarter of an hour, as I was informed, (for I was too much affected by the experiment to observe it myself,) a few ounces of blood were taken from my arm, which exhibited the following appearances. It was highly oxygenated, and did not coagulate, though there was on the top a thick tough inflammatory scum of a somewhat bluish colour; in fact it exhibited all the appearances of dissolved blood to those who saw it.' These experiments were considerably extended and diversified; but the results being in no essential degree different from those we have cited, we deem further examination unnecessary.

"Our author next proceeds to report his experiments on the steam bath. 'My pulse beating 80 strokes in a minute, and the temperature of the room 70°, I shut myself up in a machine made for the purpose of containing vapour, into which the steam was conducted by means of a tea kettle and tube.' The first observation, at the end of five minutes, discovered the heat to be 85°, and the pulsations 87. These observations followed out till the end of one hour, the temperature was found at 111° and the pulsations 180 per minute. There was fulness of the head but no pains, respiration was somewhat hurried,—some disposition to sleep. In a second experiment, the Doctor raised the temperature of his enclosure to 120°, and found his pulse to be 132. An experiment made with the steam of vinegar, produced corresponding results with the vapour of water. Experiments were also made with spirituous liquids, but the apparatus seems to have been imperfect; the results given we may presume in the main to be correct, that is, the enclosure was less heated, and consequently the body."

The editor of the Medical Recorder adds: "If the human body in a state of health is thus disturbed and threatened with ruin by making the bath a little too hot, what shall we say to that careless habit, which we believe prevails, of directing nurses to employ the water bath in the diseases of children, without directing the heat to be measured. We should lay it down as an invariable rule of practice, never to trust any other than our own senses, or those of a sensible student, or otherwise direct the amount of heat to be regulated by the thermometer." The common prescription of a warm bath is abundantly vague and unsatisfactory. For ourselves, we invariably direct the nurse, mother or attendant, as the case may be, to judge of the suitable warmth—not by dipping the *hand*, but by immersing the *arm* in water. The latter will serve as a pretty good criterion of what will be borne by the general surface of the patient.

36. *Idiopathic Tetanus treated successfully by Large Bleedings.*—The subject of this case was a man aged 25 to 30 years, whose employment consisted in turning a wheel in a glue manufactory. On the 6th of March 1829, after great labour, he felt strong pains in the vertebral column. Trismus supervened, and three days afterwards the patient was transported to the Hospital of La Pitié. Emprosthotonos then displayed itself, and soon became intense. Tetanus followed. The disease continued without abatement until the ninth day. The treatment pursued by the surgeon, M. LISFRANC, was as follows: eight copious bleedings from the arm: the four first, made in the two days after the arrival of the patient, were from twelve to sixteen ounces each; 2. Seven hundred and ninety-two leeches, all applied along the spine, with the exception of fifty over the epigastrium, which exhibited some signs of gastro-intestinal irritation; 3. Two or three baths; 4. A small clyster twice every day, (night and morning) with the addition at first of twenty-five drops of laudanum, gradually increased to a hundred and five. By this energetic treatment the patient was completely cured by the twenty-fourth day. Notwithstanding the severe abstinence which was observed, and the copious emissions of blood, the pulse preserved its force throughout; and no sign of weakness was manifested. What proves still more conclusively how little this person was enfeebled, is, that three or four days after the discontinuance of the remedial measures, he could get up and down, and walk about in the hospital yard. His constitution is not naturally robust.

M. HEDELHOFFER, on the occasion of this case being detailed to the Royal Academy of Medicine, remarked that whenever tetanic patients survived the seventh or eighth day they recovered.

V. MEDICAL JURISPRUDENCE.

37. *Report of a Trial for Murder, in which the Culprit was defended on the ground of his labouring under Mania a Potu or Delirium from Intemperance. By* DANIEL DRAKE, M.D. (*From the Western Journal.*)—James Birdsell, of the village of Harrison, in the western part of this county, on the 3d inst. was arraigned before the supreme court of Ohio for homicide. Present on the bench, Judges Pease and Sherman. In the indictment it was laid, that the defendant, on Thursday evening, 5th of March 1829, murdered his wife, by cutting through her neck from side to side, with a narrow axe, at a single blow, which severed the spinal column, and caused instant death. The proof of the fact was perfect and uncontroverted. The defence set up was *mania a potu*. Having recorded the principal facts, and also been furnished with the notes of the prosecutor and one of the advocates, I propose to lay before the reader such portions of them as have a relation to medical jurisprudence.

The defendant was to appearance about 50 years of age, and had been married nineteen or twenty years to a second wife, by whom he had several children, one of whom was a witness in the case. It appeared from the testimony that for several years he had been subject to occasional fits of intoxication, which in the latter part of the time had been followed by mania a potu, which generally lasted for several days, and went off spontaneously. In these paroxysms he had the physical and moral symptoms which usually characterize that malady. The former were great tremors of the hands, a pale face, red eyes, and sometimes a copious perspiration, even when exposed half naked to a cold atmosphere. The moral phenomena were, disordered perceptions of sight and hearing, so that he often insisted that he saw himself surrounded by snakes and other reptiles, or by armed men who sought to kill him: or supposed he heard strange sounds of trumpets or vocal music, or conversation of which he was the subject, and the object of which was mischief to himself. He was thus filled with apprehensions for his safety, and sometimes ran about the village at night, as if attempting to escape from bad persons who were pursuing him. On a certain night he made so much clamour as to excite the idea of several men engaged in a riot. At another time in his own house, he concealed himself between the feather and straw bed, where he was almost suffocated; on another occasion he was found, after dark, standing in the street without shoes or hat, and had described around him a circle in the dust, and declared, that if any one entered it that person would kill him. At other times he would peep from his window, and point his gun as for defence against imaginary persons, who were approaching to seize him. Again, he would fancy that two armies were engaged in battle, and that he must join one of them. In all his paroxysms he had so great a degree of watchfulness, as to sleep little or none for several nights in succession. But his prevailing maniacal conception was, that his wife was in a combination with three of his neighbours, one of whom was his son by a former wife, and that they had conspired against his life. Of these men, when they were not in his presence, he was afraid. In the paroxysms he was accustomed to charge his wife (unfoundedly in the opinion of witnesses), with a criminal intercourse with these persons. He even threatened to kill her if she did not desist, and had been heard to utter this threat, when he was thought by one of the witnesses to be rational.

On the Sunday before the murder, he drank freely, and was intoxicated, in which condition as usual, he was quiet, dull, and disposed to lie in bed. Monday, Tuesday, and Wednesday presented nothing special. On Wednesday evening he complained to a neighbour of feeling unwell, and asked his son's assistance in the performance of some necessary manual labour for his family. He seemed to the witness to be rational. During the night he slept none, and complained of cramp in his stomach. The next morning his family thought him crazy, but were not alarmed, as they were accustomed to such attacks. In the course of the day, he took an axe on the shoulder, and walked rapidly to the house of a neighbour, whom he desired to go home with him, saying they wanted to kill him; about the same time he told another of the supposed conspirators, that he had overheard his wife and him that morning whispering about taking his (the witness's) life. He spent the day at home in the midst of his family, apparently in agitation and terror; but said he would not hurt any one, and did not wish to be hurt. In addition to the axe which he placed under the bed, where it was often kept, he provided a scythe, which he brought into the house. He manifested jealousy of his wife, and told her to act better, for she had already caused the death of 30,000 men. He fancied that the persons of whom he was jealous, were in the loft, manufacturing ropes to hang him, and going up, returned and said, he had cut the ropes to pieces, and brought down the fragments with him, though he had nothing in his hands. In the course of the afternoon he fastened both the doors of his house. At the usual time his wife went out to milk, and he barred the door against her. On her return he fastened it again. She was seated near the fire, and he was walking the room. At length he took the axe from under the bed, and suddenly gave the fatal blow, following it up with two others on the face. His oldest daughter caught the instrument, which he yielded up, and then seized the scythe, with which he attempted to strike her. She defended herself with a chair, till the smaller children having opened the door, she made her escape. He took his youngest child in his arms, and sat down by the window. The child exclaimed, "Mamma bleeds," which he said made him feel bad. When his neighbours arrived immediately afterwards, he gave himself up, acknowledged what he had done, said he knew he would be hung for it, but that he ought to have done it nine months since; and that if he had to do it again he would strike two blows where he only struck one. Talked so rationally that many of the witnesses could not believe him deranged. Evinced no dread of punishment for his crime, but was still in great apprehension from the persons who he believed intended to kill him. Was glad that he had defeated their calculations. On his way to the city to be committed to gaol, talked rationally and composedly about his affairs, and on various subjects, but frequently asked the guard if they did not hear sweet sounds of different kinds; and on being answered in the negative, insisted that he could not be mistaken. After being committed he became regular, and expressed his regret at what he had done.

Three medical gentlemen were required to deliver professional opinions on the testimony. They came to the same conclusion, which was, that the defendant was subject to *mania a potu*, and that he laboured under that malady when he perpetrated the homicide.

On this opinion, and the facts which supported it, the counsel for the prisoner rested his defence. It was alleged, that mania a potu should not be confounded with the delirium of a fit of intoxication, but associated with insanity; and, like it, might be offered as a legal excuse for the perpetration of what in its nature is felonious. He admitted that drunkenness cannot be pleaded as an apology for crimes; but argued, that when it gives birth to insanity, the maniac should experience all the immunities of a non compos from any other cause. They averred, that if a man, in the commission of a felonious deed, should receive a blow on the head, which was followed by mental alienation, his acts, during that state, would not be regarded as criminal; and that the subject of mania a potu was in that condition. Lastly, that the habitual drunkard is urged on by a physical necessity which he cannot resist, and should not therefore be held accountable for his conduct while labouring under the derangement which follows his inebriation. To which the prosecutor replied, that mania a potu should be referred to drunkenness rather than insanity: that it follows as a necessary consequence of the former, and soon abates; that the defendant Birdsell was aware that his intoxication was productive of delirium, and hence, that he voluntarily did what he knew would derange his intellect; that mania a potu being a natural effect of intemperance, cannot be offered as an excuse, like the insanity which might follow a blow on the head, received during the perpetration of a felony; which blow and insanity should be regarded as mere contingent or accidental events; finally, that the law does not recognize in the drunkard a physical necessity to drink; but holds him accountable for his actions when intoxicated; and of course, in the delirium which follows that intoxication.

The opinion of the court was looked for with anxiety; but in their charge they waived a discussion of the point in controversy, and submitted it with the facts to the jury, who returned a verdict of murder in the first degree, as laid in the indictment.

We have not room for all the interesting remarks and comments of Dr DRAKE on this case and the decision on it. After saying, "the general impression is that both the court and jury held, that Birdsell was not deranged in the degree that destroyed his perception of right and wrong, in reference to the murder; and that if he had been, still he could not have been acquitted, because his alienation originated in intemperance;" the learned editor continues as follows: "It is not without hesitation and a sentiment of deference, that I venture to dissent from both opinions. It seems to me that the insanity of the culprit *was* sufficiently established; and that he was not capable of distinguishing between right and wrong, on the subject of his hallucination. That subject was, the supposed infidelity of his wife, and her collusion with his *son* and two of his neighbours, who conspired against his life. In all his maniacal paroxysms, these ideas occupied his attention, and were conspicuously exhibited in the last attack. On Sunday he was intoxicated, but afterwards drank nothing. On Monday, Tuesday, and Wednesday, he was sober, and seems to have been regular. On Wednesday night he became sleepless and unwell; on Thursday morning he took his axe, and went off rapidly to one of his neighbours, requesting assistance, for they were going to kill him; he returned and spent the day in upbraiding his wife, and declaring that her supposed confederates were concealed about the house, making ropes to hang him; he barred the doors; when she went out in the evening he barred them after her; on her return, his conviction still continuing, he seized one of the instruments of defence which he had provided, and as she was sitting, unalarmed, by the fire, did that which was perfectly consistent with his false impressions, put an end to her existence, as a punishment for her supposed criminal attachment to others, and to dissolve their conspiracy against his life. His daughter attempted to arrest his arm, which, in his estimation, brought *her* into the combination, and he aimed a blow at her. The murder being perpetrated, he made no attempt to escape; avowed and justified the act, but said he expected to be hung for it; came willingly with the officer to the city; at times heard sweet sounds of music on the way, but at others talked of the canal which they travelled along, and of other common matters, with great composure, and perfect rationality. Deposited in gaol, he soon manifested no farther symptoms of mental alienation.

"Now I appeal to the enlightened members of the profession every where, whether here are not all the requisites of a case of monomania; assumed and unreal premises,—deductions true to the principles of logic, but false in point of fact,—lastly, acts consistent with his conclusions. On other subjects he might have been regular enough, but on this he had gone astray; on others, he could judge between right and wrong; on this, his estimate of right and wrong took its character from his delusion."

We recommend the whole article to the attentive perusal of the medical jurist, who cannot but feel himself indebted to Dr Drake for thus showing that the cause of humanity is compatible with the soundest views of medical science and ethical philosophy.

88. *On the Inefficacy of Ammonia, and Efficacy of the cold Affusion, in the treatment of Poisoning with Hydrocyanic Acid.*—Some years ago Mr Murray of London proposed ammonia as an antidote for poisoning with prussic acid, and the trials he made with it on the lower animals were so satisfactory, that he advertised his willingness to take a dose sufficient to cause death in ordinary circumstances, provided a competent person should be at hand to administer his antidote. The investigations of which we are now to give an account will probably satisfy him that he might have found reason to repent his rashness, had any one been so curious as to accept his offer. (*Edin. Med. and Surg. Journ.*)

Dr Herbert, after repeated experiments, has come to the conclusion that ammonia, even in a concentrated state, when administered to an animal which has taken a dose of prussic acid large enough to prove fatal, and when not administered till the symptoms have existed for some space of time, will hardly ever save its life.

But he admits that in cases in which the dose has not been adequate to occasion death, yet causes severe symptoms, this remedy is of substantial benefit by mitigating and shortening its effects. He further objects to its general use as an antidote, that in a tolerably concentrated state it instantly excoriates the parts to which it is applied, and that in a state so dilute as to be free from this inconvenience, its efficacy ceases.

The following experiments are given in support of the foregoing statements:

1. A middle sized mastiff received fourteen drops of Schrader's prussic acid, and when the symptoms were developed, yet had not passed the convulsive stage, twenty drops of aqua ammoniæ were dropped into its throat. It immediately sprung up and ran about, but soon fell again, and the muscles were less violently contracted. A drachm and a half of ammonia were subsequently given at intervals, and always with the effect of making it jump up and run about for a little, but no permanent amelioration was produced. Fourteen drops more of the prussic acid were then administered, the effects of which were not in any degree lessened by the administration of another half drachm of ammonia. In a few seconds the animal expired. The tongue and throat were found excoriated and lined with blood.

2. Eight drops of the same acid were dropped into the throat of a Pomeranian dog four mouths old. Immediately he ran about confused, and then fell down. While the respiration continued, a portion of a mixture of half a drachm of ammonia, with half a cup of cold water, was poured into its mouth. At first it was not swallowed, but the animal soon became somewhat brisker, tried to rise, and then swallowed it; but its state of prostration rapidly returned, the muscles became flaccid; fresh doses of the mixture neither were swallowed, nor produced any amendment, and death ensued five minutes after the administration of the acid. The irritability of the muscles continued long after death, and the heart continued to pulsate for ten minutes.

In Dr HERBERT's hands the cold affusion proved a much more effectual and certain remedy. "When the dose of the poison was insufficient to prove fatal, two affusions were commonly sufficient to dispel every unpleasant symptom. When the dose was larger, it was requisite to repeat it more frequently, and to persevere for a longer time.

"The certainty of success depended greatly on the early employment of the remedy. It was most to be trusted when resorted to immediately after the administration of the poison, or at all events during the convulsive stage, while the muscles were in a state of contraction, the eyes staring, insensible and immovable, the head drawn backwards, and the extremities extended. This stage is rapidly succeeded by general relaxation of the body, gradually increasing slowness and feebleness of the respiration, a slow, weak, or almost imperceptible pulse; and death is then close at hand.

"Even in this paralytic condition the cold affusion will sometimes recall the expiring spark of life; then the convulsions of the muscles were renewed, the extremities became again hard and immovable; and by the gradual abatement of the spasms, the effects of the poison were slowly dispelled."

The following experiments are related in support of what is here mentioned.

3. A full grown spaniel of a small breed got six grains of SCHRADER's acid. Immediately he uttered a piteous howl, fell down, stretched out his legs, and in a few seconds appeared dead. Cold water was then poured over its head and back, and subsequently over the whole body, when the breathing began to return; the animal in a few minutes shook itself and then tried to rise. In a quarter of an hour he was able to stagger forward a little. In an hour he had recovered entirely.

4. A strong pointer bitch, five years old, took eight drops of Ittner's prussic acid. In a few minutes she staggered, drew her head backwards, and was on the point of falling, when cold water was dashed over her head. Instantly she recovered, and in a few seconds she was as lively as before the experiment. Several fresh small doses of the acid were subsequently given, and always with the effect of developing its narcotic action; but they were as uniformly removed by a fresh affusion. In fifteen minutes violent vomiting of tough, white mucus supervened, and she slavered much. These symptoms, however, also ceased in an hour and a half, when she took her customary meal.

5. Next morning eight grains were again administered to the same animal. Immediately she tumbled down, and was attacked with opisthotonos of the most violent kind, the breathing became more and more obstructed and feeble, and speedy death was evidently threatened. No time was now lost in applying the cold affusion: in a single minute the breathing became regular, she raised her head, looked bewildered around her, but continued lying. After a second affusion she stood up, walked, but with difficulty; and in an hour was so well that no sign of the action of the poison could be observed.

6. The most decisive trial was the following. Two young poodles were chosen of the same age and size, and accustomed to the same sort of food. To one was given four drops of Ittner's acid, which had the effect of only causing temporary staggering. Eight drops were then given and caused loud cries, mucous vomiting and opisthotonos. From this dose too he was beginning to recover, when four drops more were given; and death then ensued in four minutes after the first administration of the acid. The total quantity of acid amounted to seven

grains. This quantity was next given to the other dog at one dose. He immediately turned round, staggered, and fell down, incapable of stirring, and insensible. The head was drawn strongly backwards, the legs were extended, and in scarcely half a minute the breathing was imperceptible, and the pulse hardly to be felt. The cold affusion of the head was then resorted to without delay, as the muscles were flaccid and the animal appeared dead.

At first it had no effect. The earliest sign of returning animation was returning opisthotonos, and the extension of the flaccid extremities; at the same time he uttered a feeble cry, which soon afterwards became stronger. The stiffness of the body continued a long time. The affusion was then repeated over the whole body. The crying continued, and touching the body seemed to cause pain. The affusion being repeated every fifteen minutes, the respiration became somewhat stronger; but it always returned to its feeble state in the intervals until eight in the evening (the author does not state the interval after the beginning of the experiment); the animal was completely restored to health, ran about, barked, and took his food as if he never had been ill.

7. Nine drops of Schrader's acid were injected into the external jugular vein of a little house dog, six months old; in five minutes twelve drops more, and other five minutes fifteen drops, without any distinct effect except quietness, weakness, and irregularity of the action of the heart—twelve grains (27 drops) were then injected at once, upon which there ensued involuntary discharges of fæces, most violent tetanus, and all the customary symptoms, followed by flaccidity of the body and almost imperceptible breathing. The first cold affusions made the animal spring high up, and when continued they removed in no long time the paralysis of the hind legs, which was the last symptom that remained. In three quarters of an hour he had recovered completely.

8. Three days afterwards, fifty drops were injected into the opposite jugular vein of the same animal. The tetanus was even more violent than before. The cold affusion was not resorted to until the whole body was in a state of paralytic flaccidity; the muscles of the eyes alone reserving their spasmodic contraction. The effect of the remedy was equally remarkable as in any former experiment: after the first application the breathing immediately became stronger: and in four hours the dog was as lively as ever. The same beneficial results were invariably obtained in other experiments, in which the poison was applied to the eye, to the inner membrane of the nose, or to external wounds.

When the dose was so large that its effects were beyond the reach of the cold affusion, it was observed to prove fatal instantaneously, that is, almost before there was time to use the remedy.

VI. SURGERY.

89. *Cheiloplastie (operation de).*—(*Operation for New Lip.*)—In consequence of an extirpation of a cancer from the lips, J. L. Reinhard, at 48 years of age, was troubled with a disgusting deformity of the mouth, and could not retain his saliva. On the 18th of June 1827, the operation for hare-lip was performed with success on the superior labium; and eight days afterwards, a similar attempt was made on the lower lip, but unsuccessfully; a second attempt was made on the 9th of July with a similar result. M. Textor then determined to form a new lip from the skin of the neck. The operation was performed on the 1st of August 1827; it lasted for one hour; the flap detached from below the chin, being accurately adjusted to the vacuity to be occupied, was fixed by sutures without adhesive plaster or bandages. It is to the employment of adhesive plasters, that M. Textor chiefly attributes the failure of the operations of cheiloplastie, performed by Messrs Delpech and Lallemand, because they impair and interrupt nutrition in the parts compressed. The dressings were renewed the third day after the operation; on the seventh, all the sutures were removed. The cicatrix being complete on the 27th, it only remained to divide the pedicle of the

flap. The deformity was greatly corrected.—*Jour. des Progres, Vol. XIV. from La Clinique.*

40. *Treatment of Fistulæ.*—M. LISFRANC presented to the Academy a patient who had suffered since 1826 with a fistula of the sternum; and of late, three or four new fistulæ had formed near the first. The cause was unknown; the induration and suppuration were great; the general health was much injured, and M. LISFRANC thought it would be necessary to remove the whole or part of the sternum. He first resolved, however, to attempt the improvement of the soft parts: leeches in great number were frequently applied; and when there was no increase of heat, the remaining swelling was treated by means of discutients. The fistulæ closed, and for six weeks the patient has been radically cured.

M. LISFRANC also presented a patient cured in fifteen days of a lacrymal tumour and fistula, without an operation. He employed one bleeding at the arm, leeches in great numbers applied about the ears, emollient cataplasms, emollient fumigations directed by means of a funnel into the nostrils, then resolvent fumigations, a gentle purgative, and blisters behind the ears. These measures were followed by the disappearance of the tumour. To heal the fistula more rapidly, the chloride of soda was added with advantage.

M. LISFRANC reports, that, by these measures, he cured eight out of ten cases. —*Jour. General, May* 1829.

41. *Entropion.*—Dr JACKSON, of Northumberland, Pennsylvania, relates in the American Journal for August, an interesting cure of inversion of the lower lid, resulting from a tedious conjunctivitis, in which the lid was restored by a powerful traction downwards on the lid which was at the same time pressed inwards. The reduction of the "dislocation" was thus at once effected, and the disease did not return.

42. *Extirpation of Cancer of the Rectum.*—M. LISFRANC presented to the Academy of Medicine, says the Journal General for June, the female on whom he operated for cancer of the rectum, by making two semilunar incisions through the thickness, and parallel to the axis of the rectum, from its extremity to the height of three and a half inches. The tumour was removed; the sphincter was as little injured as possible, and although the posterior face of the vagina was exposed, its canal was not perforated. The recovery occupied three months: eight have now elapsed. The patient is relieved of the pain she before experienced. The anus is too contracted, so that a tent and frequent enemata are still necessary. Her general health, before greatly injured, is perfectly re-established.

43. *Orchotomy.*—Dr ABNER HOPTON, of Clinton, North Carolina, reports in the New York Medical Journal for July, the case of an individual, one of whose testicles was so much diseased, that extirpation was necessary. The spermatic cord was also so much diseased, that it was found requisite to secure the vessels *within the abdominal canal.* The patient, nevertheless, recovered after a tedious confinement.

44. *Punctured Wounds.*—Dr JAMES FOUNTAIN, of Westchester, New York, believing that a state of irritation always precedes the state of inflammation, in punctured wounds, maintains that the treatment, immediately after the accident, should be predicated on this principle, which, he says, experience confirms. Hence he advises local and general stimuli; of the former, he prefers heat with moisture. A tobacco poultice is particularly recommended.—*New York Medical and Physical Journal, July* 1829.

45. *Excision of the Superior Maxillary Bone.*—In the July No. of the Edinburgh Medical and Surgical Journal, Mr JAMES SYME reports that he has excised the upper maxillary bone in a case of osteo-sarcoma. This operation is said to

have been attempted, but has not succeeded in consequence of the uncontrollable hemorrhage. This difficulty has been overcome by Mr Syme. His patient, William M'Donald, æt. 54, entered the surgical hospital on the 13th of May; the tumour was on the left cheek, about the size of a turkey's egg, firm and circumscribed. It had existed ten months and was rapidly increasing. The operation of excision was undertaken on the 15th, as the only means by which life could be preserved. "The patient being seated on a chair, I made a crucial incision, by cutting from the zygoma to the angle of the mouth, and from the inner angle of the eye to the angle of the jaw. Having dissected back the flaps thus formed, so as to bring the external surface of the tumour completely into view, and tied the facial artery, together with two transverse facial branches of the temporal, I partially divided the malar bone with a saw and completed its section by means of the cutting pliers. I then, partly by dissection, partly by pushing with the handle of the knife, separated the contents of the orbit from the floor of that cavity; next placing one blade of the cutting pliers in the nose, the other in the orbit, divided the nasal process of the maxillary bone, and cut through the hard palate in a similar way, having previously extracted one of the incisor teeth. So far I had calculated the operation would be nearly bloodless; but to prevent troublesome hemorrhage in executing what remained, it seemed to me proper to get command of the internal maxillary artery. In order to do this, I made a small incision below the ear, and dissected through the parotid gland, so as to enable Dr Ballingall to compress the vessel between the point of his finger and the neck of the lower jaw. I then readily and fearlessly turned out the tumour; and we were pleased to see that the artery was as effectually subjected as the femoral artery ever is by the best applied tourniquet. We were less pleased to observe that the morbid growth was not confined to the maxillary bone, but extended to the sphenoid at the base of the skull." The wound was dressed by suture; no constitutional symptoms resulted, and on the third day after the operation, the patient was walking in the garden. Mr Syme does not consider the operation as having effected a radical cure, but thinks the method of preventing hemorrhage by pressure on the internal maxillary at its origin, may be found useful in future operations.

46. *Recto-vaginal Fistula.*—Dr Nicol records a case in the *Edinburgh Medical Journal* for July, in which he successfully operated for a fistulous opening between the rectum and vagina, the result of a laceration of these parts during a tedious labour. The forefinger could be passed from the vagina to the rectum, through the orifice, which was nearly two inches distant from the os externum. Considerable difficulty was experienced in keeping the vagina properly dilated during the operation, and in cutting off the edges of the fistulous opening. This was eventually overcome; the cut surfaces were retained in contact by sutures, and united completely. Dr Nicol advises, that a considerable portion of the edges of the fistula be cut away; that the ligatures should be passed right through the rectum and so near to each other as to produce a complete mechanical closure, so that flatus even may not pass from the rectum and thus lessen the chance of adhesion. Perhaps, says Dr N. the introduction and retention of a small gum elastic catheter in the rectum might be useful, in obviating the consequences of any such defects.

47. *Ligature beyond an Aneurismal Tumour.*—By reference to Vol. I. of this Journal and to subsequent numbers, some account will be found of the operations performed by Mr Wardrop and others, for aneurism, when the ligature could not be applied on the cardiac side of the tumour. Mr Wardrop has at length published his facts and opinions in more detail, in an octavo volume of 117 pages, which is reviewed in Johnson's periodical for July last. Four cases are given in illustration, to which we have on former occasions alluded. "In the first he operated under the most unfavourable circumstances, the patient being 75 years of age; and applied the ligature on the distal side of an aneurism of the carotid artery with most perfect success. An account of three similar cases fol-

lows, the two first of which were not so successful; but the last, which was performed by Dr BUSHE, (the present professor of anatomy and physiology in Rutger's Medical College, New York) is said to have been completely successful." Mr WARDROP shows, that this method of operating does not cause the blood to accumulate in the sac: that there is no danger of rupture from the vis a tergo; and that the cure ensues precisely in the same manner as after the usual Hunterian operation, by the formation of coagula, &c. Mr WARDROP has, it will be remembered (vide Vol. V. of this Journal), extended this method to aneurisms of the arteria innominata. In the case above alluded to, where the carotid artery appeared to be already obliterated, a ligature was applied to the subclavian artery, and after various dangers from the miserable state of the patient's general health, and we may add, various sinister predictions, the cure is said to be complete. Mr W. proposes, that in cases where both subclavian and carotid arteries remain pervious, ligatures should be applied to each in succession, beginning with the carotid. But even this will not always be requisite; "for, in a case of aneurism lately operated on by Mr EVANS, of Belper, in Derbyshire, the ligature on the carotid was alone sufficient for the cure, the subclavian having become *spontaneously* obliterated eight or ten days after the operation." (Vide North American Journal for July last, p. 215, for a summary account of this case.)

48. *Wound of the Brachial Artery.*—Mr SMITH, Surgeon to the Bristol Hospital, details two cases, and alludes to two others, in which, under well regulated pressure, a wound, by a lancet, of the brachial artery healed, no aneurism being formed. In these cases the vein was not punctured.—*Medico-Chirurg. Review for July.*

49. *Spontaneous cure of Aneurism.*—At the Winchester county hospital, a patient was admitted, who two years previously had the right femoral artery tied with success, by Mr LYFORD. In June last, while mowing, he felt something give way suddenly in the thigh (the left thigh), accompanied by a violent pain, and succeeded by severe throbbing, which deprived him of sleep. At the lower and internal part of the thigh a small tumour was observed, which gradually increased until he applied at the hospital; at which time it was four or five inches in circumference, circumscribed, rather hard, but entirely reduced by pressure on the artery above. At this time he could not be admitted into the house, and was directed to apply a flannel roller, so as to occasion moderate pressure, and keep himself perfectly quiet at home. On the 27th of September, he was made an in-patient, when the tumour was found to have greatly subsided, and had lost all pulsation. The patient stated, that as the bandage afforded him relief, he had from time to time increased the compression by tying a handkerchief tight round the thigh, the knot being placed directly over the aneurism. Three days previous to his admission, the pulsation of the tumour had totally ceased; and since that time, he had experienced sensations, precisely similar to those which he had felt after the operation on the opposite limb. There was also a severe burning heat under the skin, as if from boiling water trickling down the foot and leg. The temperature of both feet were alike. Mr LYFORD continued the pressure, by means of a splint and tourniquet, and in ten days every vestige of the disease had vanished. The knee joint was capable of perfect flexion and extension, and the patient, being able to walk without any support, was discharged cured.—*Medico-Chirurg. Review for July.*

The reporter would regard this recovery as owing to the obliteration of the artery in consequence of pressure from the tumour and bandage; it was not owing to the formation of coagula filling up the sac, as the tumour would almost entirely subside on pressing the artery above; and after the pulsation ceased, the remains of the tumour were dissipated with greater rapidity than under ordinary circumstances. This case would furnish an argument for treating aneurisms more frequently by pressure.

50. *Aneurism in the palm of the hand.*—In the London Medical Gazette is

related the case of William Hall, who punctured the ulno-carpal artery in the palm of the hand, about an inch below the pisiform bone. The hemorrhage was restrained by pressure, and in two days the external wound cicatrized; but soon afterwards, an aneurismal tumour appeared and increased rapidly. On the 9th of June, Mr Palmer found it of the size of a walnut, pulsating strongly. Pressure on the ulnar and radial arteries simultaneously, arrested the pulsations. On the 12th of June, a tourniquet was applied to the limb, and Mr Palmer made an incision two inches and an half in length over the centre of the tumour, and immediately secured the ulnar artery which entered into it. The sac was then opened, but on slacking the tourniquet, a strong jet of blood issued forth. As the lower orifice of the vessel could not be discovered by means of a probe, the artery was dissected for externally, found and secured. The tourniquet was again loosened, and some hemorrhage followed; and as the bleeding vessel could not be discovered, Mr P. passed a double ligature beneath the sac, tied its two ends above and below, including the sac between the knots. The hemorrhage was completely arrested; the last ligature was removed on the 30th; and on the 7th of the following month, the cicatrix was perfect.

51. *Aneurism by Anastomosis.*—In Vol. XV. of the Medico-Chirurg. Trans. (to which allusion has already been made in our Therapeutical department) Mr Brodie has related an interesting case of aneurism by anastomosis cured by means of the ligature. Miss ———, when five years old, received a blow on the forehead; soon afterwards a tumour the size of a pea was observed at the injured spot. It for a long time remained stationary, but in the year 1821, twelve years after its formation, it had manifestly increased in size, and an attempt was made to cure it by pressure, which aggravated the complaint. From this time there were frequent attacks of intense headach, which were only relieved by bleeding. In 1824 Sir Astley Cooper made another attempt to treat it by pressure, but unsuccessfully. In 1826, he secured four large supplying arteries, at four different operations, with the effect of diminishing the pain and also the size of the tumour. The relief was temporary. In the winter of 1827, the tumour increased and the painful sensations returned with redoubled violence, attended with a constant sense of weight over the eyes and with excessive depression of spirits. Mr Brodie was consulted on the 9th of October 1828. The tumour was now larger than a double walnut, and situated on the right side of the forehead immediately below the hairy scalp. It felt as if composed of a mass of tortuous vessels, and a strong pulsation was perceptible in every part of it. The skin covering the tumour was thin, and on some occasions the vessels appeared on the point of bursting. On shaving the scalp, large and tortuous arteries were seen passing in every direction to the tumour. Pressure on both temporal arteries slightly diminished the pulsation. There was a constant sensation of weight and pain in the forehead: the latter was aggravated by pressure on the tumour, especially at its upper edge. Mr Brodie proposed to strangulate the tumour by ligatures; this was sanctioned by Dr Robertson, Mr Keate and Sir Astley Cooper, and the operation was performed on the 15th of October. A long steel needle was passed under the tumour between it and the periosteum. By means of this needle the tumour was raised, and another needle was passed beneath and at right angles to the former. A strong silk ligature was then drawn very firmly round the base of the tumour below the needles. The tumour immediately became purple as if strangulated. Much pain was experienced; but from the instant the ligature was applied, the peculiar sufferings occasioned by the disease were at an end. Some fever was excited, for which bleeding was required. On the 18th of October, all the arteries entering the tumour had either ceased to pulsate or pulsated less strongly than before, with the exception of those at the upper part. Concluding that the strangulation was not complete, Mr B. armed one of the needles with a double ligature, and having removed the needle tied the ligatures, one on each side. On the 20th, the same operation was repeated with the other needle. On the 22d, the pulsation of the arteries at the upper part had greatly diminished, and the slough had begun to separate. On the

26th, the slough came away without the smallest hemorrhage. The remaining ulcer was two or three times touched with the nitric acid, as some suspicious appearances were noticed. It however soon healed. On the 2d of December, the cicatrix was completely formed; the extraordinary pulsation of the arteries had disappeared, and there was nothing unusual to be observed, excepting a little fulness between the cicatrix and the eye-brow, owing to prior distention of the skin. The patient was free from pain and all other inconvenience.

52. *Empyema.*—In Dr Drake's Western Journal, Vol. III. is detailed the case of Calvin Cook, who suffered from empyema of the left side, in consequence of measles, contracted in February 1829. Dr Samuel Meriwether, of Indiana, was consulted by Dr Lewis; and on examining the patient, found the heart beating on the right side, general œdema on the left side, which measured from the spinal column to the sternum nearly double that of the right, and had an indistinct fluctuation. The operation for empyema was performed at the usual place. On puncturing the pleura a volume of pus issued forth and continued to run for forty minutes, when the pulse became so languid as to require the immediate closure of the opening. He expressed himself as relieved. An anodyne was given, and wine and water directed, so long as his pulse continued weak. On the morning of the 6th the patient was much better, and his respiration easy, whether he lay on the one side or the other. The elevation of the ribs had subsided, and likewise, also the œdema: the wound appearing to close, a blunt probe and leaden canula, about one and a half inches long, were introduced, which kept up a discharge for two weeks at least. The quantity of pus discharged from first to last was judged by all present to be two gallons. The patient was now committed to the care of Dr Lewis, who reports, that the quantity of matter discharged while under his care was equal to the first. His health is now (June 10, 1829) fast recovering; he is free from cough, and takes gentle exercise every day on horseback or in an easy carriage. The wound has entirely healed.

53. *Extirpation of the Ovaries.*—Our readers may recollect, that in our first volume we gave a history of this operation, as performed generally with success by Dr E. M'Dowell, of Kentucky; by Professor Smith, of New Haven; and by Dr Alban G. Smith, of Danville, Kentucky. The operation has not been equally successful in Europe. In the Archiv. General. for May, we find an account of several cases of this character, of which we shall present a summary.

Case 1. By Dr Dieffenbach, of Berlin. This was a Polish female, æt. 40, who for ten or twelve years had a tumour in the lower part of the abdomen. She was married at eighteen years of age, but had never conceived; menstruation had been regular. At the request of the patient, Dr D. undertook the operation by making incisions through the linea alba and peritoneum; but, unfortunately, the tumour had a broad base, containing vessels whose pulsation was very strong; and it appeared to be attached to the vertebral column. The base was very soft; but the form of the lower portion of the tumour and its connexion with the uterus and bladder could not be determined. A puncture made into the tumour caused a hemorrhage which could only be arrested by pressure. The wound was now closed by sutures. Very severe symptoms followed; which disappeared after some days, under a rigorous antiphlogistic course. The patient's health was restored.—*Rust's Magazine*, *b.* 25, *h.* 2.

Case 2. Reported by Dr Hopfer. A peasant, 47 years of age, the mother of eight children, had an enlargement of the ovary of the left side, and requested that it might be removed. An incision was made from the extremity of the xiphoid cartilage to the symphysis pubis. On dividing the peritoneum, eight pounds of a serous fluid were evacuated: followed by a prolapsus of the intestines and omentum. The tumour was adherent to the colon, to the peritoneum, and to the stomach, so that it required more than twenty minutes to detach it. The pedicle of the tumour rested on the illum and originated from the broad ligament. After the application of a double ligature the pedicle was divided. The extirpated ovary weighed seven pounds and a third. The right ovary was healthy. In thirty-six hours the patient died from gangrene of the intestines.

Case 3. By the same. This was a female, 38 years of age, the mother of five children. She also had an enlarged ovary on the left side. The operation was performed as in the preceding case. On opening the peritoneum, a great part of the intestines prolapsed, which were immediately covered by a warm and moist cloth. The adhesions of the tumour with the peritoneum and at the entrance of the pelvis were cut. The pedicle was divided after the application of a double ligature. The intestines, which for five or six minutes had been covered with the moist cloth, were replaced in the abdomen. The serum accumulated in the pelvis was removed by a soft sponge, and the wound was closed by sutures. The operation lasted a quarter of an hour, and only a few ounces of blood were lost. The cure was retarded by no accident, and at the end of six weeks this female returned to her native place. Since this period she has become the mother of a fine child. The extirpated tumour weighed eight pounds.

Case 4. By the same. A female, aged 38 years, not married, of a feeble constitution and with delicate health, entreated M. CHRYSMER to remove a large and indurated tumour in the left hypogastric region. Although the prognosis was unfavourable, M. C. yielded to the woman's request. On dividing the peritoneum, near five pounds of a purulent serum of a yellowish green colour were evacuated. The tumour adhered only at the sacro-vertebral symphysis. The pedicle was four inches in thickness: it was tied and cut. Repeated faintings succeeded the operation, and the patient died in thirty-six hours. The peritoneum and intestines were found gangrenous. The tumour weighed six pounds and a half.—*Graefe and Walther's Journal*, *b*. 12, *h*. 1.

Case 5. By Dr MARTINI. A young woman, aged 24 years, the mother of one child, had symptoms of encysted dropsy on the right side, for which paracentesis abdominis was several times resorted to. A hard tumour was observed after each operation. Finally, no water followed the puncture; and Dr MARTINI, supposing that the sac had become indurated and steatomatous, decided on extirpating the tumour if practicable. He made an incision nine inches in length, and discovered a white smooth cartilaginous tumour about the size of a man's head, which appeared to be firmly fixed at the entrance of the pelvis; no pedicle was noticed. On the superior part of the tumour there was a sac, into which a trocar was pushed; a pound of serum was evacuated, the parietes of the swelling collapsed, and some of the intestines and omentum protruded from the wound. Not succeeding in separating the tumour from the bladder, rectum, and the entrance of the pelvis, the operator removed the sac to prevent any fresh accumulation. Some small arteries were tied. The protruded parts were restored, and the wound closed by sutures. On the second day, large quantities of serum were evacuated through a canula, left at the lower angle of the wound. The discharge soon became bloody; the patient rapidly lost strength, and died in thirty-six hours after the operation. On dissection the tumour was found softened, the tube and part of the broad ligament formed its pedicle, and there was a bloody exudation below the tumour, but there was no trace of inflammation in the abdomen, so that it is probable the patient perished from the discharge of blood and serum.—*Rust's Magazine*, *b*. 27, *h*. 3.

VII. MIDWIFERY.

54. *Prevention of Abortion*.—Dr BELDEN has published in the New York Medical and Physical Journal for April last, the case of a delicate female, who had suffered three successive abortions, with great injury to her health. Abortion in a subsequent pregnancy was prevented by the application of a permanent blister to the upper part of the leg. The patient's health was renovated, and she has, in another pregnancy, again escaped every accident.

55. *Pregnancy after Amputation of the Cervix Uteri.*—M. Lisfranc announced to the Academy of Medicine that two other females (Vide North American Medical and Surgical Journal, Vol. II. p. 14 and 420) who were pregnant after amputation of the neck of the uterus, have been happily delivered at the full period of utero-gestation. One who, anteriorly to the operation, had very rapid labours, was in labour forty-eight hours; in the other, who was in labour for the first time, two hours of pain were sufficient for the expulsion of the fœtus. No bad consequences resulted, and the health of each female was excellent.—*Journ. General for May* 1829.

56. *Respiration in Reversed Presentations.*—In the American Journal, Dr Bigelow, of Boston, relates cases in which he has succeeded in preserving the life of the child in breech or footling presentations by enabling it to respire before the head is delivered. After the body is delivered the head is frequently retained in the vagina or uterus so long that the child suffers from pressure on the cord; under these circumstances it is practicable, by means of the hand, or if the head be high, of a flattened tube, to procure a passage for air to the mouth of the child, in which case respiration will usually ensue. If the child should not then breathe, cold water dashed on the body will usually excite the respiratory movements; after which the expulsion of the head may usually be delayed with safety until the natural pains are effectual. When employing the hand, the body of the child should be carried by an assistant forwards to the pubis when the face is towards the sacrum. The accoucheur should then introduce the hand till the middle fingers rest upon the mouth of the child; the hand is then to be raised from the throat of the child, making the ends of the fingers a fulcrum, and pushing the perineum backwards. The air will now pass as far as the chin; the middle fingers are now to be separated about half an inch from each other, and thus a complete passage will be formed between them to the mouth of the child.

57. *Adhesion of the Placenta to the Head of the Fœtus.*—From the Nouv. Bibliotheq. for May, we learn that M. Lauray has transmitted to the Royal Academy of Medicine, the details of the following case. A labour being fortunately terminated by turning the fœtus which had presented an arm, the placenta was found adherent to the hairy scalp of the child. The head was flattened at its anterior and superior part, where the os frontis was wanting. A projection of the brain covered by the integuments, was noticed in the situation of the right eye, which last was wanting. There was a hare lip, &c. &c. The infant lived thirty-two hours. No attempt was made to separate the placenta from the head to which it adhered to some extent, to the fore part, to the left and to the centre (top) of the hairy scalp; no explanation was offered either as to the cause or manner of the adhesion. The liquor amnii had flowed in abundance a short time before the accouchement, and gestation was not attended by any remarkable circumstance.

VIII. CHEMISTRY AND PHARMACY.

58. *Aspartic Acid.*—M. Plisson read a memoir on this acid, before the Paris Society of Pharmacy, on the 15th of April last. The following summary of its contents is taken from the *Journal de Chimie Médicale* for May last.

Properties of the Acid. When crystallized in water, it has the appearance of a brilliant powder, in which may be perceived, by the aid of the microscope, crystals in the form of four sided prisms, with two sided summits, and perfectly transparent. Its taste is slightly acid, and it reddens litmus. It dissolves in 128 times its weight of water. Its sp. gr. is 1.873. It is decomposed by heat, and gives rise to azotized products. Its solution does not precipitate the following substances: viz. the muriates of baryta and lime; the sulphates of magnesia, manganese, and zinc; the salts of iron; the acetates of lead; the sulphate of copper; corrosive sublimate; the nitrate of silver; and tartar emetic. It produces a slight cloud in the solution of soap. The carbonates are decomposed by it, with disengagement of the carbonic acid. It has the property of converting starch into sugar. Its combinations with bases give rise to a distinct class of salts. The soluble aspartates with mineral bases have a characteristic taste, resembling that of gravy, but varying according to the nature of the base present. In the aspartates with organic bases, this taste is entirely covered by more or less bitterness. Among the salts already obtained, are the aspartates of potassa, soda, lime, magnesia, zinc, nickel, quinia, cinchonia, and morphia.

From the Journal of the Royal Institution for July 1829, we have the following particulars respecting the source of the aspartic acid. The peculiar crystalline matters, severally obtained from asparagus, liquorice root, and the marsh-mallow, have been shown by M. Plisson to be identical, and have been designated by the name of *asparagin*. When brought into contact with the hydrated oxide of lead, it produces a new salt, which, on being decomposed, furnishes the aspartic acid of M. Plisson.

59. *Spontaneous Combustion of Sodium on Gum Water.*—M. Serullas communicated a fact to the Paris Society of Pharmacy, relative to the decomposition of water by sodium. It is well known that this decomposition takes place without the disengagement of light, and without causing the inflammation of the hydrogen extricated. To cause the spontaneous combustion of the sodium, all that is necessary, is, to give the water, on which the metal is projected, a certain degree of consistence, as, for example, by means of gum. Under these circumstances, a vivid combustion is produced, as when potassium is thrown upon water. M. Serullas supposes, that the phenomenon depends upon the obstacle, afforded by the viscosity of the water, to the motion of the piece of sodium. The consequence is, that the heat generated is not carried off so rapidly, but allowed to accumulate sufficiently to determine the inflammation of the hydrogen. —*Journal de Chimie Médicale, May* 1829.

[The spontaneous combustion of sodium may be shown in a very interesting manner, by throwing it upon boiling water.—Ed.]

60. *Iodide and Chloride of Nitrogen.*—It is stated in the Journal de Chimie Médicale for June last, on the authority of M. Serullas, that the compounds known by these names are not simply combinations of nitrogen, with iodine and chlorine respectively, but contain hydrogen, and are really iodides and chlorides of ammonia.

61. *Artificial Diamonds.*—The crystals mentioned in our fourteenth number, supposed to be artificial diamonds, are stated, on the authority of Thenard, to consist of silica.

62. *Analysis of Buckwheat, by* M. Zenneck.—We extract the following analysis from the Journal de Chimie Medicale for May 1829.

One hundred parts of the grain of the plant (polygonum fagopyrum), gave, of

Lignin,	27.0
Starch,	52.3
Gluten,	10.5
Albumen,	0.2
Extractive,	2.5
Gum and Mucus,	2.8
Extractive mixed with Sugar,	3.1
Resin,	0.4
Loss,	1.2
	100.0

63. *On the detection of Corrosive Sublimate. By* M. Orfila.—In an article, contained in the June number of the Journal de Chimie Médicale, M. Orfila comments upon the method proposed by Mr James Smithson, for detecting minute portions of corrosive sublimate; which consists in plunging into the suspected liquid a small electrical pile, formed of a gold ring, wound round in spiral by a rolled piece of tin-foil, and then adding a few drops of muriatic acid. Mr Smithson alleges, that sooner or later, if the liquid contain corrosive sublimate, the ring will become whitened by a precipitation of the metallic mercury.

M. Orfila admits that corrosive sublimate may be detected in this manner; but asks whether this mode of proceeding may not lead to error, by giving very similar results, when employed for solutions which contain not a particle of mercury. M. Orfila thinks it may; and adduces in support of his opinion, the following facts:

A sudorific syrup, called a *regenerator of the blood*, having been submitted to his examination, he tested it by the usual reagents for detecting minute portions of mercury, without success; and then had recourse to Mr Smithson's method. At the end of two hours the gold exhibited white spots, resembling those which might be expected to result from a weak solution of a mercurial salt; and upon exposure to heat, it resumed its yellow colour, just as happens to gold whitened by mercury. M. Orfila was hence strongly inclined to believe that the syrup contained a mercurial preparation, and nevertheless it contained none. To render the matter certain, that the whitening of the gold did not depend upon a thin coating of metallic mercury, M. Orfila prepared the syrup himself, without using any mercurial preparation, and, after acidulating it by a few drops of muriatic acid, plunged into it the minute electrical pile. At the end of twenty-four hours, the gold was whitened, and when subjected to the fire was similarly affected, as it would have been, had it been covered by a minute film of mercury.

M. Orfila undertook to determine the cause of this appearance; an investigation of the more importance, as calculated to guard physicians and pharmaceutists from committing errors, when charged with making reports on subjects connected with the administration of justice. The explanation which occurred to him was, that a small portion of muriate of tin was formed, and that this was decomposed by the elementary pile, and the metallic tin deposited on the gold which it whitened; and that when the whitened gold was exposed to heat, the tin combined with the gold, and formed an alloy containing so little tin as not to impair the colour nor general appearance of the gold.

M. Orfila made several experiments, and satisfied himself that the explanation above mentioned was correct. He found, however, that if plates of gold and tin were *separately* suspended in a weak solution of muriatic acid, the whitening of the gold did not take place. Hence it occurred to him, that if Mr Smithson's plan, thus modified, would detect mercury by the whitening of the gold, it would be free from all ambiguity from the danger of the whitening being produced by the tin. The experiment being thus modified, resulted in giving to the gold a slight and loosely adhering coating of calomel, on the metals being separately suspended in a weak solution of corrosive sublimate. Thus it was shown, that to obtain the result of a coating of metallic mercury on the gold, the minute pile is necessary.

M. Orfila next examines the following question: is it practicable to distinguish whether the gold of the little pile is spotted white by mercury or by tin? He found that the gold when whitened by the tin might be restored to its natural colour in a short time, by the application of concentrated and pure muriatic acid; but when whitened by mercury and similarly treated, the whitened portions resisted the action of the acid, even for twenty-four hours. Hence it is obvious that muriatic acid furnishes a means of distinguishing whether the gold be whitened by mercury or tin. M. Orfila, however, prefers that the discrimination should be made by subjecting the whitened gold to heat at the bottom of a small glass tube, drawn by means of a lamp to a capillary orifice. If the white colour arises from mercury, it will be volatilized, and condensed in the small end of the tube. If, however, it be from tin, no such effect will take place.

M. Orfila concludes his paper by remarking, that Mr Smithson's little apparatus, when employed with the precautions necessary to determine the nature of the whitening metal, "is, without contradiction, the most delicate reagent that can be employed for the detection of minute traces of a mercurial salt."

[We would suggest, that the small pile of Mr Smithson might be formed by combinations of gold, severally with copper, or iron. If these combinations would succeed in precipitating mercury, they would be free from the ambiguity attendant on the use of tin.—Ed.]

64. *Action of Hydrobromate of Potassa on the Animal Economy.*—This salt has the same relation to the newly discovered element bromine as muriate of potassa has to chlorine. It has been the subject of some experiments by Dr Barthez, instituted to determine its physiological effects. We are indebted to the "Journal de Chimie Médicale" for May last, for the following summary of his results:

1. Hydrobromate of potassa, introduced into the stomach of a dog, through an incision in the œsophagus, causes death, in a dose, varying from a drachm and a half to two drachms, according to the vigour of the animal, by producing inflammation of the mucous membrane, without ulceration or emphysematous condition.
2. Injected into the jugular vein, it causes death, in doses of from twelve to fifteen grains, by coagulating the blood.
3. When injected into the stomach, it is returned by vomiting; and in that case does not prove fatal.
4. It acts with less violence on rabbits than on dogs.
5. From its mode of action, which has much analogy to that of hydriodate of potassa, it may be classed among the corrosive poisons.

65. *On the Mudar of Hindostan.*—Dr A. Duncan has given a paper on this medicinal drug in the Edinburgh Medical and Surgical Journal for July last, from which we make the following abstract. It is the bark of the root of the Calotropis mudarii, and must not be confounded with the Calotropis gigantea, the Madorius of Rumphius, a plant possessing similar medicinal properties.

The root of the true mudar plant is perennial, perpendicular, fusiform, branched, nearly round, surmounted by a thicker head, from which several heads ascend. The epidermis of both root and stems is of a pale fawn colour, or yellowish brown; the surface is fine, wrinkled longitudinally, and covered with a dry brownish powder, which soils the fingers. To prepare the mudar powder, the roots are dug from a sandy soil in April and May. They are then well washed in clean water, and afterwards thoroughly dried by wiping them with a cloth. After this, they are allowed to dry in the open air so far that the milky juice shall become somewhat inspissated, and not flow in the subsequent part of the operation. The brown epidermis is then to be scraped off, and the bark left uncovered and white. The bark is now to be sliced or torn off, and dried, after which it is fit to be reduced to powder.

The powder of mudar is of a pale fawn colour, possessing scarcely any, or a very faint smell, and a bitter, slightly nauseous taste.

According to the analysis of Dr Duncan, the bark of the mudar root contains, 1. An extractive matter, on which probably the activity of the medicine depends, and to which Dr D. provisionally gives the name of mudarin; about 11.5 *per cent.* This matter, in its impure state, possesses the very singular property of being soluble in cold water, and gelatinizing when the solution is heated to 85° or 90° Fahr. 2. A resin, remarkable for its requiring a temperature of at least 212° for its liquefaction, and for its sparing solubility in cold alcohol; about 4 *per cent.* 3. A gummy matter, probably not freed from extractive; about 8 *per cent.* 4. Starch in considerable quantity. 5. Albumen. 6. A little fixed oil. 7. Vegetable fibre. It contains no oil or other volatile principle.

Dr Duncan has made many trials with this medicinal article in the Royal Infirmary of Edinburgh, and has satisfied himself that, in every respect, its action is so similar to that of ipecacuanha, that the latter might be altogether dispensed with in practice.

The chief application of the mudar is to the cure of cutaneous diseases, such as elephantiasis, psoriasis, and lepra. As an alterative, Dr DUNCAN prescribed it in doses of three, five, or seven grains, three times a day, and as an emetic in doses of fifteen to twenty grains. In the latter doses, it rarely failed to produce full and easy vomiting.

Dr DUNCAN made two trials with mudarin. On the first trial, it produced vomiting in the dose of one grain; the second time it was employed, three doses of one grain each were necessary to produce emesis. Dr DUNCAN concludes by remarking that his experience establishes the analogy, if not perfect identity, of mudar with ipecacuanha as a therapeutical agent.

66. *New organic Alkalies discovered in Cinchona Bark.*—We derive the following interesting article from the *Journal des Progres*, Vol. III. for 1829. Dr SERTURNER, chemist, of Hamelm, remarked, during the prevalence of an epidemic intermittent fever in 1828, that the quinia was far from being a certain specific against this disease, even when given in doses of six or eight grains, conjoined with acids. It stopped the paroxysm, but not in a permanent manner; for there were many relapses, which made it necessary to resort to the bark in substance, which, administered in large doses, in conjunction with acids, rendered the relapses much less frequent. Dr SERTURNER likewise ascertained, what has been observed by other practitioners, that quinia cannot be substituted for cinchona, as a tonic. He was, therefore, induced to undertake new analytical researches on the different kinds of cinchona bark, with the view of ascertaining the cause of this difference. The details of his experiments, he reserves for future publication, communicating at present his principal results, which are as follows:—

The precipitates obtained by treating the acidulous extracts of cinchona bark by alkalies, comprise, besides quinia and cinchonia, certain additional organic alkalies, which may be considered as modifications of the former.

These new organic alkalies, and especially the principal one, which Dr. S. calls chinioidia (*chinioidine*) are intimately united with a sub-acid resinous substance, which, if not hurtful, is at least not beneficial, and which is very difficult to separate. Its separation can be effected completely, only by the vegeto-animal charcoal, which is obtained in the preparation of safranic acid, discovered by M. LIEBIG. After having dissolved in strong sulphuric acid, (diluted with three or four times its weight of water) the impure alkaline substance, which remains after the sulphate of quinia has been separated by crystallization, the solution is to be decolorized by means of a mixture of the vegeto-animal charcoal, above mentioned, with ordinary animal charcoal. But, before conducting this decoloration, it is best to treat the solution with alcohol, in order to separate the earthy salts.

The new alkali exists in the cinchona barks, associated with quinia and cinchonia.

Properties of chinioidia. It resembles the other alkalies of the cinchona bark, in its insolubility in water, its colour and taste. But it is distinguished from them by its activity, and its greater capacity of saturation. Its alkaline reaction, and its intimate combination with an extractive matter, which is probably an acid, are characters not less striking. Its salts, when freed from extractive, are affected by heat and liquids, after the manner of balsams; being viscid and fusible like the latter, although they contain frequently, to all appearance, their acids in a dry state. As a medicine, chinioidia is one of the most precious agents of the materia medica. It is not merely a better febrifuge than quinia, and even than the bark in substance; but it possesses many other therapeutic properties, which, admitting that they exist in the bark itself, are not to be found in quinia. It was prescribed by Dr SERTURNER [in saline combination?] in the dose of two grains, three times a day, with the direction to swallow a little vinegar after each dose, with the view of saturating the gastric juice, which is sometimes alkaline in fevers, and which by acting on the salt, sets free the chinioidia, and thereby renders the medicine inert, in consequence of the insolubility of the new alkali, when uncombined. In all the cases, treated by the new remedy, the fever was cut short without relapse, and in every instance, the concomitant symptoms, such as the paleness of face, loss of appetite, œdema of the legs, &c. disappeared in a shorter time than is usually the case. The medicine failed only in a single instance. The quantity necessary to effect a cure was generally from twelve to twenty-four grains.

67. *Detection of Mercury in Swaim's Panacea. By* ROBERT HARE, M.D. *Professor of Chemistry in the University of Pennsylvania.*—Dr HARE, in a letter to Dr HAYS, mentions the fact of his having detected mercury in this nostrum, by treating it in the following manner: Two-thirds of a bottle of the panacea were diluted with about two gallons of water, and allowed to ferment with yeast for nearly a year, for the purpose of decomposing the syrupy matter, which forms so large a portion of the preparation, and interferes with the indications of reagents. The liquid, much attenuated by the fermentation, together with the matter which had subsided from it, was then evaporated to dryness, the heat being continued until the residuum had been converted into a dry, blackish, porous crust. Part of this crust was wrapped-up in paper and laid upon a shelf. Some months afterwards, Dr HARE happened to examine the crust attentively, and found on it some globules of metallic mercury. On further examination, by the aid of a lens, he found it replete with mercurial globules, disseminated throughout the whole mass.—*American Journal of the Medical Sciences, August* 1829.

68. *Epispastic Ointment without Cantharides.*—In the Journal de Chimie Medicale for June 1829, M. Guibourt recommends the following formula for preparing an epispastic ointment without the use of flies. He prepares first an alcoholic extract of mezereon (garou) in the following manner: Take the bark of mezereon, newly dried; cut it up, and bruise it in an iron mortar. Moisten it with alcohol of twenty degrees, so as to form it into a thick pulp. Exhaust it two or three times by means of alcohol, of thirty-six degrees, in a water bath. Subject the magma to strong compression, and distil off the alcohol from the alcoholic tinctures. The extract thus obtained is odorous, and of a deep green colour, and is employed in the formation of the ointment in the following manner:

Take of the alcoholic extract of mezereon, . .	a drachm,
pure hog's lard, ...	nine ounces,
white wax, ...	an ounce.

Dissolve the extract in a skillet, by means of an ounce of alcohol, add the lard and wax, and heat moderately, the ingredients being constantly stirred, until the alcohol is evaporated. Then strain the whole through linen, and run it into pots. The ointment is of a pale green colour, and without smell.

Miscellaneous Articles.

We beg leave to recommend to our readers a new periodical, entitled the Journal of Health, of which the second number has already appeared. It is published on the second and fourth Wednesdays of every month, by Mr J. Dobson, at No. 108 Chesnut street.

The object of this publication is popular exclusively, and will therefore diffuse a knowledge of the natural laws to which the human frame is subjected; the influence and properties of air, aliment, clothing, baths, discussions concerning medical police, physical education, &c. &c. All topics connected with the preservation of health will be comprehended within the avowed scope and aim of the enterprising editors of this interesting work. The closing paragraph of the announcement is as follows:

"Divested of professional language and details, and varied in its contents, the Journal of Health will, it is hoped, engage the attention and favour of the female reader, whose amusement and instruction shall constantly be kept in view during the prosecution of the work."

Now in press, "a short Treatise on the Anatomy of the Groin, with plates, in which the adipose and cellular tissues, the seats of inguinal and femoral hernia, and the term fascia, are considered in connection with remarks on the mechanism of the parts. By William Darrach, M.D. of Philadelphia."

In the press, and will shortly be published, by Thomas Kite, No. 64 Walnut street, "Malaria; an Essay on the Production and Propagation of this Poison, and on the Nature and Localities of the Places by which it is produced: with an Enumeration of the Diseases caused by it, and of the Means of Preventing or Diminishing them, both at Home and in the Naval and Military Service. By John M'Culloch, M.D. F.R.S. &c."

A Treatise on Pathological Anatomy. By W. E. Horner, M.D. Adjunct Professor of Anatomy in the University of Pennsylvania. Carey, Lea & Carey, 1829. 8vo, pp. 460, with coloured plates. Of this valuable work, which has just made its appearance, we shall speak fully in the next number of this Journal. In the mean time we can with safety recommend it to the attentive perusal of all those interested in obtaining correct pathological knowledge. This recommendation will of course extend to every student and practitioner of medicine.

A Manual of Materia Medica and Pharmacy, comprising a Concise Description of Articles used in Medicine, &c. &c. By H. M. Edwards, M.D. and P. Vavasseur, M.D. Translated from the French, with numerous Additions and Corrections, adapted to the Practice of Medicine and the Art of Pharmacy in the United States, by Joseph Togno, M.D. Member of the Philadelphia Medical Society, and E. Durand, Member of the Philadelphia College of Pharmacy. Carey, Lea & Carey, 1829. The merit of this work cannot be done justice to by any notice so brief and summary as that to which we must necessarily be restricted in this place. We shall not fail to direct the attention of our readers to it more fully in our next number.

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